

U.S. AIR FORCE ORAL HISTORY INTERVIEW

HONORABLE JOHN L. McLUCAS

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by

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Historical Research Center**

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AIR FORCE HISTORY AND MUSEUMS PROGRAM

ORAL HISTORY INTERVIEW
OF

HONORABLE JOHN L. McLUCAS

INTERVIEWED BY
GEORGE M. WATSON, JR., Ph.D

April 10 & May 7, 1996

PLACE:
DR. McLUCAS'S HOME
IN
ALEXANDRIA, VIRGINIA

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BIOGRAPHICAL SKETCH
OF
HONORABLE JOHN L. McLUCAS

John L. McLucas was born on 22 August 1920 in Fayetteville, North Carolina. He graduated from Davidson College in 1941 with a BS in physics, and in 1943 from Tulane University with a MS in physics. In 1950 he received a Ph.D. from Penn State University in physics and a minor in electrical engineering. During World War II he served as an officer in the U.S. Navy including a two year stint at sea in the Pacific theater as Radar Officer, CIC Officer, and Operations Officer. From 1950-1957 he was vice president and technical director of Haller, Raymond and Brown, Inc., an electronics firm. He then served four years (1958-1962) as President of HRB-Singer, Inc. He left private business to serve in government as Deputy Director of Defense Research and Engineering (Tactical Warfare Programs), a position he held for two years. For another two years (1964-1966) he served as Assistant Secretary General of Scientific Affairs at NATO headquarters in Paris, France. In 1966 he returned to private business as President of the MITRE Corporation. Three years later he was back in government serving as Under Secretary of the Air Force from 1969 to 1973 until becoming Secretary of the Air Force in 1973. After two years as air secretary he was appointed by President Gerald Ford to head the FAA, a post he held until 1977. He then returned to COMSAT where he worked for eight years before retiring.

This interview focuses upon the DDR&E and Air Force years of Dr. McLucas's career.

1 Interviewer's note: On March 8, 1996, I sent Dr. McLucas a list of questions which Dr.
2 McLucas responded to in writing in a 25 March 1996 letter. I have listed my questions and
3 Dr. McLucas's answers at the start of the interview. The actual taped interview of April 10
4 and May 7th follows.

5
6 INTERVIEWER: What prompted you to decide to leave the MITRE Corporation to accept
7 appointment as Under Secretary of the Air Force in 1969? What had been your prior experience
8 with the Air Force? Did Secretary Seamans select you to be his Under Secretary? Were you familiar
9 with the Office of the Secretary of the Air Force (OSAF), its history and its organization, prior to
10 becoming Under Secretary?

11 DR. McLUCAS: I was busy enjoying life in Concord, Massachusetts, when the Nixon
12 Administration took office in January 1969. Concord was a pleasant community, and as head of
13 MITRE, I was in the enviable position of corporate leader, local civic activist, officer in my church,
14 and all the rest. I was active in YPO, the Young President's Organization, and had just run a
15 seminar on "What Can the Black Community Expect from the Young President's Organization?"
16 As a result of the success of that seminar, I was asked to head the local chapter of YPO. While
17 contemplating whether to take the assignment on top of a full life, I was asked to come to
18 Washington to discuss the Under Secretary's job.

19 As I said, I was enjoying being a VIP in Concord, but I was not enjoying the continuing
20 civil unrest in the nation brought about by our involvement in Vietnam. As everyone knows, it was
21 a subject of tremendous controversy and was causing me considerable heartburn. As head of
22 MITRE Corporation, I was doing more or less continuous liaison between our company and our
23 sponsors in the Pentagon and at Andrews AFB. We were only three or four miles from Hanscom

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1 AFB, Electronic Systems Division (ESD), and Lincoln Laboratory and were in almost daily contact
2 with one or more of those agencies. I came to Washington at least monthly, and often, more
3 frequently than that, discussing problems with our sponsors and serving on the Air Force Scientific
4 Advisory Board, the Defense Science Board, the Defense Intelligence Agency Advisory Committee,
5 and so on. Running a defense-oriented company and serving on advisory groups was something I
6 had done for twenty years and was very much at home in that environment; in many ways, running
7 MITRE was just more of the same. But I did get quite involved with Vietnam-related activities. As
8 an example, Johnny Foster, the then-current Director of Defense Research & Engineering
9 (DDR&E), was a friend of mine. He called one day to say they were going to build what came to
10 be the McNamara Line in Laos, and he needed a technical person to be put in charge of the
11 development and field installation of that system. Within a few hours I had one of our key
12 engineers, Dave Israel, on a plane, headed for an interview with Johnny. Johnny never let him leave
13 until he had agreed to take the job, move to Washington, and work 'round the clock on the
14 problem; in the process of bringing Dave on board, Johnny talked to our sponsors about our
15 supplying a few dozen MITRE people to support him.

16 Four years before going to MITRE, I had left a company, HRB, where I was president, after
17 building it up from ten engineers in 1950 to several hundred in 1962, to take a job in the Pentagon.
18 I spent two years on the third floor of the Pentagon as a deputy to the DDR&E — at the time,
19 Harold Brown. My job was to oversee development of tactical systems of the three services and the
20 Advanced Research Projects Agency (ARPA). I headed an office called Tactical Warfare. As such,
21 I had spent much time with OSAF officials — Eugene Zuckert, Brockway McMillan, Joe Charyk,
22 Al Flax, among others — and their military counterparts — the Chief [General LeMay] and his
23 deputies, Jim Ferguson, Spike Monmyer, and others. I became a good friend of General Schriever

1 at Air Force Systems Command (AFSC), and I sympathized with his frustrations on the TFX and
2 CX [which became the C-5]. General Schriever did not like being overruled by the Pentagon
3 civilians on having the TFX built by Boeing; the military had gone through a long source-selection
4 process and had chosen Boeing. At the last minute, the civilians gave the job to General Dynamics
5 (GD) in Texas, home of the Secretary of the Navy and, of course, of LBJ. Various USAF officers
6 were over on the Hill crying about being overruled, and Senator McClellan responded by
7 conducting an investigation of the procurement. About that time, I took the job Harold Brown
8 offered me as head of the Tactical Warfare office. This was the office that would normally have
9 been called on to defend the TFX decision on the Hill. Realizing that the background on the case
10 was pretty complicated for someone new in the building to master in a week or two of fast
11 preparation, Harold Brown asked me if I would mind him assigning the job of testifying to Fred
12 Payne, who was an old hand in the office, was an aero engineer, and had been following the
13 ongoing selection process. I said I would be delighted to have Fred assume the task. I became even
14 more delighted as time went on and I saw the political factors come into play. But my job
15 description meant the task would have been mine had nothing been done to change it. Bennie
16 Schriever called me and said he thought that Boeing would do a much better job on the TFX than
17 GD. He said that one of the main factors being cited for overruling the generals was that Boeing
18 had proposed to use a lot of titanium in the structure; the civilians said that we didn't know how
19 to work titanium into the complicated shapes that aircraft structures required. Schriever said we had
20 already accumulated the necessary experience, but it was on a still-secret project which he would
21 be glad to have me look at; he said he couldn't talk about in on the telephone and suggested I go
22 and see it in the flesh. I said I'd be willing to do that. He said, if you'll be at Andrews AFB
23 tomorrow morning, we'll fly you to where the project is. At 7:30 the next day, I climbed into a

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1 T-39 and soon landed at Beale AFB. They rolled back the hangar doors, and there sat a completely
2 black airplane like nothing I'd ever seen before. It was the F-12 interceptor, or the A-11 Oxcart,
3 later called the SR-71 — an all-titanium structure, proving that we did indeed know how to work
4 titanium. I was impressed and had to sign some papers acknowledging that I would respect the
5 secrecy of this very hush-hush program whose very existence was not recorded anywhere in the
6 public record. But about then, Harold decided to have Fred take responsibility for the TFX
7 testimony, and I never was asked to testify personally. As soon as the testifying was over, I
8 assumed responsibility oversight for the remainder of the TFX program. We went through all kinds
9 of hell as the McNamara decision that all the Services would use the TFX kept falling into disfavor.
10 The Army made the case that the airplane fulfilled no Army need, and it was let off the hook. The
11 Navy needed a new carrier attack airplane, and the TFX was supposed to be the answer. The plane
12 took the name F-111, with the USAF version being the F-111A and the Navy's being the F-111B.
13 The problem was that Fred Korth, the Navy secretary, was the only Navy man who thought the
14 F-111B was a good idea. The Navy fought the decision for five years, and when McNamara left
15 the building in 1967, they finally were able to scuttle it. They then hired Grumman, their favorite
16 contractor, to build the F-14, which looked an awful lot like the F-111 — about the same size and
17 with all the same principal characteristics (high bypass engine, swingwing, etc.) — but it had a
18 Navy nameplate on it!

19 I spent a lot of time visiting various Army, Navy, and USAF facilities and bases getting
20 familiar with the military and its doings. I was very conscientious. We worked on what airplanes
21 would be developed for this and that mission, whether there were airplanes already in the inventory
22 which could be double-hatted, whether aircraft carriers should have nuclear power, and so on. I
23 spent a lot of time working the issue of whether there was an engine suitable for the C-X; there

1 wasn't, but GE finally came in with a design that cut the mustard: it was the TF-39, and it formed
2 the basis for a whole stable of engines which have gone on to fame and fortune.

3 This reminds me of a critical event during my tenure with the Air Force ten years later. We
4 were buying the E-4 Airborne Command Post, and it had a Pratt and Whitney (P&W) engine on
5 it. P&W had supplied all the engines for the B-747 up to that time. Gerhard Neumann of GE came
6 in one day and said we ought to be using his new CF-6. After listening to his pitch, I said okay,
7 but I couldn't spend any money to get a more high-powered engine when the existing one was
8 already big enough to do the job. He said he would take the P&W engines off my hands and give
9 me the upgraded GE engines at no extra cost. I said, "Sold!" We told Boeing to reconfigure the
10 airplane for the GE engine. They did so, and then they went to their commercial customers and said
11 that from now on, they would offer the airplane with either engine at the customer's choice.

12 I spent much time in joint meetings between the Air Force and Navy on the TFX, struggling
13 with a host of issues like weight, landing speed, lift coefficient, and so on. Every few weeks the
14 Navy had another complaint about the airplane and how it just wasn't suited to their mission or
15 their environment, etc.

16 After two years of this, I had fulfilled the obligation I had taken on in my original
17 "contract" and prepared to reenter the "real world"; I looked at various jobs back in private
18 industry. Harold pinned a Distinguished Public Service medal on me and mentioned that there was
19 a job in Paris that he was helping recruit for, and maybe I should take a look at it. He said he was
20 going to Paris the following week and suggested that I ride along, which I did. We flew over to
21 Paris and, to make a long story short, the job appealed to me. Against almost all the advice I got
22 at the time about going out of the country and being forgotten by all my friends here, I went to
23 Paris to work for NATO for two years. It was a great tour, and the family learned a lot about living

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1 in a different culture — albeit not a hardship tour — in Paris.

2 While still with DDR&E, I made a visit to Southeast Asia to see firsthand what some of
3 the needs of the Services were in that theater. This was before the major buildup of forces; Saigon
4 was a rather pleasant place to visit with the women in their bao dais, various officials of the
5 Vietnamese government throwing dinner parties and speaking French, and all the rest. I returned
6 to Vietnam a couple of times later, and of course, each time we were more involved and less sure
7 just when we could wrap it all up. But my life in DDR&E was mostly about developing new
8 weapons for general warfare in Europe, such as a new engine for the C-5, a new tank for the Army,
9 and similar problems, rather than concentrating on Vietnam. We had offices of special warfare
10 working that issue. I remember McNamara announcing in 1965 that we were finally on top of
11 things and there wouldn't be any more bad news. I went off to Paris feeling pretty good about my
12 two years in the Pentagon, where people said I had done a good job; I had certainly learned a lot
13 about the world beyond my experience in a small company in Pennsylvania.

14 This reminds me of an event which preceded my arrival in Washington. Harold had invited
15 me to come to Washington as a deputy in his office, and I was trying to weigh the pros and cons.
16 It occurred to me that Gene Fubini had made a similar transition to what I was being asked to do
17 and that his background was not unlike mine. He had been a key officer in Airborne Instruments
18 Lab on Long Island, which built equipment and performed services very similar to what we did at
19 HRB. He could be a good source of advice, so I called him and arranged a meeting to discuss his
20 decision to go to Washington. I asked specifically whether, when he decided what ought to be done,
21 he felt he had enough authority to accomplish what he wanted to do. He said "John, if you take this
22 job, you will not be authority-limited; you will be wisdom-limited!" He said there will be lots of
23 cases where you will see important factors on both sides of the decision and there will be millions

1 of dollars riding on the outcome and it will just be very hard to know which is the better way to
2 go. I did take the job, and I did have the troubles he said I would. I've thought about his remark
3 a thousand times since.

4 But on to Paris. I spent two years at NATO Headquarters as the Assistant Secretary General
5 for Scientific Affairs, reporting to an Italian, Manlio Brosio, who had been ambassador in Paris,
6 London, Moscow, and Washington. He was a real gentleman of the old school and a pleasure to
7 work with. I worked closely with the American contingent at NATO headed by Harlan Cleveland,
8 another real gentleman whom I have enjoyed working with ever since. (Ambassador Brosio had a
9 nephew who dated my daughter.) One of my jobs in Paris was to head a committee of defense
10 directors from all NATO countries. Harold Brown was the U.S. member, and I saw him in Paris
11 many times over those two years. Our concerns dealt with the development of common weapons
12 for use among the NATO allies in case of war in Europe. There wasn't much talk about Vietnam
13 in that environment, and of course many of our allies thought the U.S. was spending much too
14 much time and energy worrying about Southeast Asia. In the middle of my tour in Paris, Harold
15 changed jobs, becoming the Secretary of the Air Force.

16 My tour in France was mostly quite pleasant. One of my two jobs was chairing the Science
17 Committee, a committee formed during the only NATO Council meeting of that era where all the
18 heads of state were present. Ike was still president when it was formed, so he was there; I took the
19 job seven years later. We held meetings in various countries, and I visited still more to check up
20 on our projects which we sponsored in all NATO countries. My family took advantage of being in
21 the center of Europe, and every school vacation, I took the family to see yet another part of Europe.
22 The kids blossomed on a prescription of total immersion in French schools, learned to live in a
23 second kind of culture, and generally thrived. My oldest daughter kept up with her class at home

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1 and graduated at the top of her class in absentia! My wife liked it too, or did a good job of making
2 it appear so.

3 My other job was chairing the meetings of the Defense Research Directors Committee on
4 which Harold Brown sat. It took most of my tour to get it working smoothly, but it was a good
5 experience at seeing how much you could get done with allies working together, and how it would
6 be foolish to expect more than was possible. I left with a very good feeling about having taken the
7 job. Contrary to what my friends had said about getting isolated and being out of sight, out of mind,
8 I found that when I looked around for a job, several good alternatives were available. Several were
9 on the west coast in addition to an opening due to the impending retirement of the president of
10 MITRE. In that connection, I was visited in Paris by Jack O'Neill, the head of ESD at Hanscom,
11 and Jim Killian, the chairman of MITRE and also chairman of MIT at the time. I also heard from
12 Harold Brown and Bennie Schriever, both of whom urged me to take the job at MITRE. After
13 looking at various jobs including two in southern California, I took the MITRE position. After
14 making a trip to California to check out two job possibilities, I flew to Boston and landed in the
15 middle of a snowstorm. It made California look especially good to me, but my wife said, "Isn't the
16 snow beautiful?" I took the job in spite of the snow.

17 While living in Paris, although I visited the U.S. a couple of times a year, I was somewhat
18 shielded from the buildup of concern at home about Vietnam; I came back to find that it was much
19 more of an issue than I had known before. There was quite a bit of unrest in the Boston area about
20 the war. Over a period of a year or so, I myself developed rather intense feelings about how the
21 LBJ administration was handling things. By the spring of 1968, I had drafted a letter to Clark
22 Clifford, the Secretary of Defense, and Dean Rusk, the Secretary of State, saying I thought the
23 military should be allowed to fight to win. I described our policy as a no-win situation where we-

1 won't-let-you-win-but-we-won't-let-you-out; that seemed the closest I could come to describing
2 what was going on. As head of MITRE, I saw that I couldn't write a letter as a private citizen
3 without its being taken as the position of the head of MITRE; I was sitting there holding my letter
4 and trying to decide what to do with it when LBJ went on the air to announce he was throwing in
5 the towel and wouldn't stand for reelection in November. I was greatly relieved, not because I knew
6 what would happen next, but because I thought anything would be better than more of the same.

7 I voted for Nixon but was not and have never been active in politics. Nonetheless I was in
8 frequent contact with various people in Washington about how certain jobs (including my old one
9 in DDR&E) would be filled. I helped persuade the parties on both sides that my candidate was the
10 right one for my old position in DDR&E. So I was talking to the recruiters and others about jobs
11 that needed to be filled when Bob Seamans called to ask me to come down and talk about my
12 possible role in the scheme of things. (Eight years later I played a similar role in getting Bill Perry
13 to sell his company and come to the Pentagon as DDR&E. I must add that I had nothing to do with
14 his coming back the second time as deputy to Les Aspin, but I certainly applauded Bill Clinton
15 hiring a person of Bill's background. Bill had been a key member of the Packard Commission on
16 procurement reform and had the ideal background for the number two job on the third floor. I've
17 always been proud that I was his first boss beginning back in 1954 when I hired him as a part-time
18 graduate student at HRB for \$2.50 an hour to work on some math problems on one of our projects.)

19 Bob Seamans told me he wanted to talk to me about the Under Secretary's job and that Mel
20 Laird and Dave Packard also wanted to talk to me about that job and another one. I came down and
21 had good discussions with all three; Mel Laird told me about how the Nixon team would get us out
22 of the war and we could then concentrate on strengthening our defenses against our real enemy, the
23 Soviet Union. Dave Packard told me that he would be my boss on the other job I would have,

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1 because in that job, I would not report through Air Force channels but through him to the Secretary
2 of Defense. The overall package sounded great to me. I was perfectly willing to work for Bob
3 Seamans because he was not only a sound engineer and manager, I also knew him to be a decent
4 human being, a person whom I would be happy to call friend. In addition, he wanted someone to
5 share the work rather than just to mind the store until he could get back to his office. Mel Laird
6 persuaded me that we would not be in Vietnam any longer than it took to "Vietnamize" the war;
7 Dave Packard, whom I'd not met before, turned out to be a really impressive person who looked
8 like he would be fun to work with.

9 I went home and told my wife that I was thinking of changing jobs and returning to
10 Washington. She had just got our new house furnished the way she wanted it and had settled into
11 our very pleasant environment in Concord, an area she loved from her college days at Wellesley
12 (twelve miles away). She thought I was out of my mind, and she was not easily persuaded that I
13 should reenter government. In fact, I never did persuade her; I just went ahead and took the job
14 anyway. Who knows whether I should have listened to her more respectfully and receptively?
15 Taking the job in Washington certainly changed the course of my life, the course of my marriage,
16 and all the rest. On the same side of the argument with my wife was Mel King, a black activist in
17 Boston. When I told him I had decided to go back into government in Washington, he was very
18 upset with me; he said I had sold out. I guess he was hoping I'd stick around and be of some help
19 on some of the problems we had discussed together. That's another piece of unfinished business
20 which I think back on from time to time.

21 When Bob Seamans and I discussed his job offer, we talked about how he saw the job of
22 under secretary. He wanted a true deputy and expected to do a lot of travel, in which case I would
23 run the store when he was away. There are many times when it really screws things up if you just

1 put everything on hold until the big boss returns in a week or whatever. Bob said his background
2 was more in aero and mine was more in electronics, so there would be many projects where he
3 would take the lead and many where he would expect me to take the lead, depending on which
4 discipline was involved. This meant that I would concentrate more on such fields as satellite
5 communications, fire control, and electronic warfare, and he, more on developing some new
6 airplanes. I don't remember whether we discussed RPVs (pilotless airplanes) at that session or not,
7 but we ended up with my taking on that issue too. He said I would have to talk to Mel and Dave
8 about the other job.

9 The "other job" was heading the National Reconnaissance Office (NRO). In the late 1950s
10 there was a highly secret development project going on to develop a reconnaissance satellite to
11 replace the U-2 and SR-71. Those airplanes had been started by the CIA with the Air Force
12 playing a supporting role. AFSC had a large part of the effort as did the Lockheed "Skunk Works."
13 The new satellite was part of a larger Air Force project called WS 117-L — also at Lockheed.
14 Security was such that people were worried that the Russians would be triggered off and there
15 would be hell to pay with them objecting at the UN to the prospect of our overflying them in space.
16 We saw what they did to the U-2 as soon as they got the capability to shoot it down. So it was
17 decided to cancel (ostensibly) that part of the Air Force project and replace it with a weather and
18 science effort. An overt project to continue the visible parts of the job was set up under the name
19 Discoverer as part of WS 117-L. Under Discoverer, we developed power supplies for the satellite,
20 integrated the satellite into the booster rocket, built recovery systems to bring back payloads from
21 space, and so on. From that point, the NRO took over the recce camera part of the job and managed
22 it through a combination of AF and CIA agencies under the name of Corona. The under secretary
23 of the Air Force was the program manager with a CIA deputy. But the name Corona never appeared

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1 on any public document, and the NRO budget never appeared in any public document either. In
2 1960 the Corona had its first successful flight; it was actually the fourteenth attempted flight.
3 Fortunately all the key people involved in the conception of the U-2 knew its life would be limited
4 and started work on the satellite shortly after the first flight of the U-2 in 1955. So when the U-2
5 was shot down in May 1960, we were only three months shy of our first success with Corona.
6 Incidentally, I had been active on WS 117-L in the 1950s when HRB took a small contract from
7 Wright Field to convert some of our airborne elint receivers to operate in a satellite. It was small
8 potatoes, but it allowed us to claim we were active in space-related work.

9 By the time I returned to the Pentagon in 1969, Corona was operating with fairly good
10 reliability and was flying several times a year. I was already up to speed on this because of my
11 service on the DIA Advisory Committee; we would meet periodically and discuss "the take," as it
12 was called, from the overhead flights. As head of the NRO, I was involved in deciding how many
13 Coronas we would have to fly before its replacement was ready (we actually flew the last one in
14 1972). We developed a whole series of improved systems for photoreconnaissance and various
15 systems for signal interception. The NRO has been responsible for some of the most fascinating
16 technical development work anywhere in the country — or in any country, for that matter.

17 So, in answer to the question of why I came to Washington to join the Air Force, I have
18 to say there were several reasons:

19 1) Having begun my Air Force career in 1946 in one of the lowest jobs (a
20 physicist of civil service grade P-2), the idea of taking the number two job had a
21 certain emotional appeal.

22 2) Having served for several years on the DIA Advisory Committee, I was
23 quite familiar with the work of the NRO, and the idea of running that exotic

1 program had enormous appeal.

2 3) And having worked closely with Gene Zuckert and Harold Brown in
3 their roles at the Air Force, I knew the challenges faced by Bob Seamans and his
4 deputy. I welcomed the opportunity to take part of the responsibility for key Air
5 Force decisions and felt I could do at least as well as my predecessors.

6 4) Having begun to feel very frustrated about the way the Vietnam war was
7 being fought, the idea of getting closer to the place where the key decisions were
8 being made and possibly being able to shorten the war myself had a certain appeal.

9 Sitting here in 1996 and seeing the date of 1946 a few lines above, I feel a little like
10 celebrating my 50-year association with the Air Force. Of course, it was the Army Air Forces when
11 I went to work at the Cambridge Research Center, becoming a separate Air Force in September
12 1947. Sheila Widnall held a 50th anniversary for the SAB last year, and at that party, I had only
13 49 years with the Air Force. But her party was premature, with the date being the 50th anniversary
14 of the decision to found the SAB. By the time it actually met, it was 1946 and I was on the payroll,
15 so my 50-year claim is legitimate.

16 INTERVIEWER: How would you describe the policy initiatives of the Nixon
17 administration? What effect did Secretary of Defense Melvin R. Laird have upon the OSAF?

18 DR. McLUCAS: What was new about the Nixon administration? In my view, the main
19 difference was that Nixon et al. said they were in Vietnam only long enough to get out gracefully.
20 Mel Laird impressed me as a man who was strong-willed with a lot of ideas. And he wanted to
21 create a team of senior officials. In McNamara's view, he and his deputy secretary and his staff
22 were hired to put the military departments in their place. He tended to treat the service secretaries
23 like lackeys, except for Harold Brown who had been a member of his staff for four years before

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1 he took the Air Force job. Zuckert didn't like to come to work as soon as McNamara did. The
2 rumor was that he usually had to dress in his limo on the way to the Pentagon; it was a federal
3 offense to keep McNamara waiting when he called to ask you to come to his office at 7:00 A.M.
4 When Admiral McDonald became Chief of Naval Operations (CNO), he never adapted to
5 McNamara's rules that you were supposed to live at the pleasure of the Secretary of Defense.
6 Admiral McDonald thought you should get your work done in an eight-hour day, and if you didn't,
7 it meant you weren't properly organized. McNamara stripped him of that arcane idea.

8 People criticized Nixon for not having a plan to get out of Vietnam, but he seemed to have
9 a stronger intention to get out than LBJ did, so it was better than the alternative of dragging things
10 out. Unfortunately, it took almost four years to really stop the war, with our getting out in 1973.
11 Bob Seamans left the building in May of that year. I became secretary just as the war ended, so my
12 tour in the top job consisted of our attempts to salvage an Air Force from the wreckage caused by
13 loss of equipment, of morale, and of the feeling the Air Force had always held that if there was a
14 job to be done, we could do it. We tried to rebuild the morale and get a start on a few new projects.
15 The most important new specific development we brought to completion on my watch was the
16 YF-16/YF-17 flyoff, the selection of the F-16 as a major component of Air Force equipage and
17 its sale to NATO. The F-15 development was pretty near completion when Bob Seamans left. In
18 my view the F-15 and F-16 showed that if you did a good job of design and test, you could avoid
19 fiascos like the C-5 and F-111 — two programs started by our predecessors who were so smart
20 they didn't need to do prototypes but could go into production on fixed-price contracts for airplanes
21 that were far from straightforward follow-ons to previous work. The wings fell off both of them;
22 we had to build a new wingbox for the F-111 and a whole new wing for the C-5. We spent a lot
23 of money and effort salvaging those programs.

1 INTERVIEWER: What was Secretary Laird's effect on the Air Force?

2 DR. McLUCAS: Mel saw himself as a team builder. He left the building in 1973, so he has
3 been gone now for 23 years. During that time, his troops have organized a number of alumni
4 meetings. Our team was called the Laird-Packard team, and I think we all felt our team was real.
5 Mel set up weekly meetings with the secretary and under secretary of each service; if either was
6 away, the other would come alone. He also had a weekly meeting with the three service secretaries
7 together; if the secretary was away, the under secretary would replace him at the meeting. It would
8 be hard to imagine McNamara holding such meetings. When Jim Schlesinger became Secretary of
9 Defense, I suggested we continue the meetings Laird had convened with the three service
10 secretaries. He asked me what I thought they could possibly have to talk about; the meetings never
11 occurred.

12 Mel also had a weekly staff meeting where he called on his staff to update the group on
13 various events and requirements for reports and so on. Mel was very proud of his ability to work
14 the Hill; he spent a lot of time walking the halls of Congress and rounding up support. He used to
15 brag that he never lost a vote on the Hill. He had his own set of rules about the White House. We
16 would get calls from the White House and our tendency was to respond. After that happened a few
17 times, he said at staff meeting that we weren't supposed to do anything when the White House
18 called except to refer the caller to Carl Wallace, his personal assistant. I always found Mel very
19 supportive, but he was highly critical when something didn't go the way he thought it should.

20 One day he called me and asked me to come down to his office. When I arrived, he asked
21 me to tell him what the Air Force had ever done right by way of program completion. He said he
22 was hearing that the Air Force had a way of screwing things up and he'd like a list of developments
23 that had gone right. I went back to the office and started trying to find something that had gone

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1 right. It took a long time; I finally went back and said that the only program I could find was the
2 C-141. That airplane had come in on time at the stated price and was working well in the field.
3 Later we had a number of successes, and by the time he left the building, he had changed his tune.
4 At departure ceremonies for me, and I think for Bob Seamans as well, he gave the Air Force credit
5 for having more successes than any other service. He said that now when someone asks which
6 service does the best job, he always answers, "Air Force."

7 INTERVIEWER: Did you have a planned agenda that you hoped to concentrate upon when
8 becoming Under Secretary of the Air Force?

9 DR. McLUCAS: I had an agenda related to airplane development. A school of thought had
10 grown up under McNamara that prototyping had gotten so expensive that it was no longer
11 affordable. I felt that the cost of prototyping was not the issue; the reason for prototyping was to
12 avoid the huge blunders we had experienced in cases where no prototyping had occurred. I believed
13 we couldn't afford *not* to do prototyping. It turned out that Dave Packard and Bob Seamans felt
14 pretty much the same way, so I was preaching to the choir. The lightweight fighter was probably
15 the best example of a pure prototype, but we applied the prototype philosophy to the F-15 also.
16 That is, we built only a few airplanes and subjected them to full-life tests before clearing them for
17 production, or even for full-scale development. It cost money to do it, but the process resulted in
18 highly successful airplanes which now have twenty years of outstanding performance under their
19 belts.

20 INTERVIEWER: What areas did you eventually focus upon, and were they of your
21 choosing or were they assigned to you by Secretary Seamans when you became Under Secretary
22 of the Air Force?

23 DR. McLUCAS: Bob Seamans and I agreed mutually on what areas he would work and

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1 what areas I would work, but we weren't saying that if A got airplanes, B wouldn't make any
2 contribution, and the same for satellites. For example, I worked the issue of locking up weapons
3 on the B-52s. When I came in and found there were no locks on nukes, I started pressuring John
4 Meyer and got them locked. It took some time for people to accept the idea, but they came around.

5 INTERVIEWER: Did you want to lead the NRO? Did this assignment interfere with other
6 OSAF duties? Did you retain control over the NRO when you became Secretary of the Air Force?

7 DR. McLUCAS: Yes, I wanted to lead the NRO but, as I said earlier above, that was not
8 something that had to be negotiated with Dr. Seamans. During Harold Brown's tour as SAFOS, Al
9 Flax had the responsibility reporting to Deputy Secretary of Defense.

10 Did NRO work interfere with USAF work? I split my time more or less 50-50 between the
11 two assignments. There were times when I was totally involved with the NRO, but it wasn't
12 common, so I would say that was not a big problem.

13 I maintained control of the NRO after I became SAFOS for a few months. At first, I was
14 acting secretary beginning in May 1973, so it wasn't feasible to turn the NRO work over to
15 someone else. Only when I actually became secretary in July was that an option. I immediately
16 started recruiting, and I believe I had hired Jim Plummer by late fall.

17 INTERVIEWER: Were you pleased with the organization of the OSAF? Did you ever
18 recommend any changes as Under Secretary or as Secretary?

19 DR. McLUCAS: I don't remember trying to change the organization. The only friction I
20 experienced was minor. Phil Whittaker didn't take kindly to meeting with me to discuss USAF
21 issues when we first started working together; perhaps he thought I was trying to insert myself
22 between him and the secretary. I had no such intention; I merely wanted to keep the ball rolling,
23 so I never took offense at his attitude, and I hope he didn't either.

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1 INTERVIEWER: How involved did you become with Vietnam war issues?

2 DR. McLUCAS: As National Reconnaissance Office (NRO) director, I had some
3 involvement in the sense that Vietnam was one more target area for us. But our main concerns there
4 were the USSR and China, with Vietnam getting little attention. I did work some communications
5 issues and was involved in the gunship business as backup to Dr. Seamans.

6 INTERVIEWER: Who were some of the most memorable people you dealt with during
7 your tenure as Under Secretary and Air Secretary?

8 DR. McLUCAS: Of course the heaviest involvement was with those close by — Laird,
9 Packard, Seamans, John Chaffee, John Warner, Stan Resor, Johnny Foster, Mal Currie, Dick Helms,
10 Jim Fletcher, Jim Schlesinger at OMB. Bozo McKee, and Jack Shaffer at FAA. I remember well
11 some of the people I had to testify before, such as John Stennis, Eddie Hebert, George Mahon, and
12 Bill Proxmire. I had good interactions with university types like Jim Killian, Howard Johnson, Jerry
13 Dinneen, Walt Roberts, and Doc Draper. I enjoyed very much working with industry people like
14 T. Wilson at Boeing, Din Land at Polaroid, Tom Jones at Northrop, Sandy McDonnell at McDAC,
15 Gerhard Neumann at GE, Allen Puckett and Bud Wheelon at Hughes, Si Ramo and Rube Mettler
16 at TRW, Ed Uhl at Fairchild, and Irv Kessler at RCA.

17 INTERVIEWER: You worked with four Air Force Chiefs of Staff, John P. McConnell
18 (February 1, 1965–July 31, 1969), John D. Ryan (August 1, 1969–July 31, 1973), George S. Brown
19 (August 1, 1973–June 30, 1974), and David C. Jones (July 1, 1974–June 20, 1978). What can you
20 remember about your relationship with these Chiefs? Can you recall their relationship with the
21 OSAF? How did the Air Staff and the OSAF relate during the tenures of each of these Chiefs?

22 DR. McLUCAS: CSAFs. As the dates show, I did not work long with J.P. McConnell and
23 I would say it was not especially a good or bad relationship. I did work well with Sally McConnell

1 on wives' issues. During those early days, I had an excellent relationship with John Meyer, and I
2 think he felt so too, Jack Ryan and I worked well together. He was a man of few words and I could
3 never understand why; when he spoke, he usually had something worthwhile to say, but it was
4 almost like pulling teeth to get him to talk. He didn't change when he retired; he said nothing at
5 his retirement ceremony, very few words at the White House when President Nixon pinned a medal
6 on him (the day before Nixon's resignation). When Jack would return for some kind of reunion,
7 he still didn't say much — including describing the state of his health. I later decided that he must
8 have known all along that he wasn't going to live long, and perhaps that explained his taciturn
9 nature. He was quite nervous when we talked at lunch (we had lunch together frequently for
10 business purposes). I would often notice that the whole table was shaking from his legs doing a fast
11 motion beneath.

12 I would say my attitudes toward the chiefs were very much related to what I thought of
13 their with-it-ness. I never got close to J.P. I thought I got as close to Jack as was possible for an
14 "outsider" to do, and we worked together quite well. I remember one day the subject of the Navy
15 brass and the Navy secretary came up, and then the Army too. He said that neither service was
16 used to having much interchange between the civilian side and the military side. I said that all I
17 knew was that in the Air Force, there was a lot of interaction. He said he agreed but that it was not
18 necessarily because the military wanted it that way. I made the point that the civilians could be of
19 great help to the military in getting support on the Hill, etc. He allowed that that was true but said
20 the military sometimes got more interaction than they really wanted.

21 George Brown was, in my view, a great chief. He was a great role model for his own troops
22 and worked smoothly with the civilian side. He and I used to go to the Hill together to testify. It
23 began because of timing, and my tenure as secretary starting in the summer, that he and I were up

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1 for confirmation at the same time in July 1973. With John Stennis in the hospital with gunshot
2 wounds, Stuart Symington ran the hearings. First, George and I visited Senator Stennis at Walter
3 Reed. It was like a love-in. The senator felt he knew both of us well and it showed. It didn't hurt
4 any that he had shared a vacation spot with me one summer, courtesy to the Air Force. Then the
5 Symington hearing went swimmingly. George and I decided that we made a pretty good team, so
6 we started going over to the Hill together without the usual retinue trailing behind us. I remember
7 George Mahon asking one day why we had no one with us. I said I thought the kinds of questions
8 he would ask were ones we ought to know the answers to; it was only the petty details where we
9 would need backup. He seemed happy with that response, so we kept doing it. Of course that was
10 not the only way we went over, but it does illustrate something. I felt George Brown and I were
11 quite sympatico. I admired his wife, Skip, and worked well with her too.

12 After a year, he got promoted to Chairman, JCS, and Dave Jones came in. Jim Schlesinger
13 and I had no trouble agreeing that Dave was the right man for the job. Dave and I had a good
14 relationship, and I think we worked well together, but we were never as close as George and I were.
15 Dave was more concerned about his relationship with the Secretary of Defense and wanted to
16 succeed George as chairman.

17 Dave was a quite forward-looking man. When I was under secretary, Mel appointed me a
18 special assistant for civic affairs. As such I dealt with the services on what programs they would
19 do to build better relations with the local communities where service families lived. In that role I
20 dealt with Dave Jones. At the time, he had something like the Second Air Force reporting to him
21 and had a number of "civic action" programs which sounded pretty interesting. I asked him what
22 we in the Pentagon could do to facilitate that work. He said "Just get out of our way!" That was
23 Dave Jones, all right. But he was a doer and got a lot done.

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1 Once he came to me and said he was thinking of recommending Chappie James for a fourth
2 star. We talked it over and decided it would be a good idea. We talked to Jim Schlesinger who also
3 thought it was a good idea, so his name left the Pentagon with strong backing. Chappie was as good
4 as his word; he said if we promoted him, he'd never give us reason to regret it, and he never did.

5 In general, I think Jack Ryan was right; there was a lot of interaction between the military
6 and civilian sides of the Air Force, and it usually went quite well.

7 INTERVIEWER: Did you choose areas of interest when you became Secretary of the Air
8 Force in your own right?

9 DR. McLUCAS: I don't remember sitting down with Jim Plummer and drawing up any
10 kind of list of items for each of us. I told him that he had total responsibility for the NRO and I
11 would try not to interfere, but if he wanted to talk with me or ask my advice, I'd always be glad
12 to help. Otherwise, he would follow what he thought was good business practice when I was out
13 of town. I don't remember ever being unhappy about what he did.

14 INTERVIEWER: What can you recall about the role of the service secretary during your
15 tenure? Did you believe that the service secretary ought to have been more involved in operational
16 matters?

17 DR. McLUCAS: The role of service secretary in operational matters was not an issue when
18 I became secretary. It had been a touchy subject during Vietnam, but Vietnam was history when
19 I took over as secretary.

20 INTERVIEWER: Do you recall serving as an emissary between Secretary Seamans and Dr.
21 John S. Foster, Jr., the DDR&E from October 1, 1965, to June 21, 1973? Was he difficult to get
22 along with?

23 DR. McLUCAS: Interface with DDR&E--Johnny Foster was an activist and he was not the

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1 world's most organized person. Some felt that he took the advice of the last guy he had talked to.
2 He and I had a sort of mutual admiration society and worked together very well. This had begun
3 while I was at MITRE and continued from then on while I served in the Pentagon. I think Johnny
4 would have liked very much to be offered the job of secretary of the Air Force. I do not remember
5 serving as a link between Johnny and Dr. Seamans, but it could very well have happened on
6 occasion. As to whether he was difficult to work with, I didn't think so, but if in fact he tended to
7 go with the last input, he could be said to be difficult to work with. As a possible example of
8 serving as Air Force liaison with him, I was heading the NRO when the STS (shuttle program) was

9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]

17 Dr. Malcolm Currie succeeded Johnny as DDR&E and I worked very closely with him for
18 the next 2 1/2 years of my tenure. He was of great help with the lightweight fighter and the GPS
19 system which we finally got underway during his term. Dave Packard and Mal Currie were of one
20 mind on GPS: namely, that if Air Force built such a system, it should respond to the needs of all
21 the services—its requirements package should satisfy everyone. So we had to incorporate the Navy
22 Timation system, thus replacing the Navy Transit system. A joint program office was set up with
23 Col. Brad Parkinson heading it, and his group came out with the answers which have stuck and

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1 allowed the system to be built. Two years ago, it reached IOC (Initial Operational Capability) and
2 more recently reached FOC (Full Operational Capability). Even the FAA has started incorporating
3 it into their operational plans and is building approach plates based on GPS for all airports in the
4 country. And Frank Shrontz left the Air Force to take the same job on the third floor where he
5 helped get the F-16 adopted by NATO. Jim Beggs was at General Dynamics during that time and
6 was also of great help in selling the F-16 to the NATO countries. Jim wore his NATO tie pin with
7 all the countries' flags on it for 15-20 years after the F-16 was adopted by NATO. He was very
8 proud of that accomplishment and rightly so.

9 INTERVIEWER: What weapon systems or issues did the DDR&E and the Air Force work
10 on? Did the DDR&E have much to do with planning or improving weaponry in Southeast Asia, for
11 example the 105-mm cannon on C-130s?

12 DR. McLUCAS: DDR&E worked with the Air Force on weapons for Vietnam but I am not
13 a good witness on that; I suggest Bob Seamans and/or General Larry Welch who now heads IDA.

14 INTERVIEWER: Did you have ready access to DOD Assistant Secretaries when you were
15 Under Secretary of the Air Force?

16 DR. McLUCAS: The quick answer is that I had good relations with most of them and with
17 the staffs of Mel Laird and Dave Packard. I worked closely with the DDR&Es and Roger Kelly,
18 Bob Moot, Bob Froelke, Gardiner Tucker, Jerry Friedheim, and Barry Shillito, and also with Gerry
19 Smith and Carl Walske on atomic energy issues. I guess I didn't work with the medical guy very
20 much but it was because we didn't have too many issues to deal with.

21 INTERVIEWER: Did you have access to Secretary of Defense James L. Schlesinger (July
22 2, 1973-November 19, 1975)?

23 DR. McLUCAS: Fortunately we had already worked closely with James Schlesinger when

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1 I headed the NRO and he was assistant director at OMB, so we got off to a good start. In fact, that
2 relationship was what led to my becoming secretary. Elliot Richardson had invited me to lunch one
3 day shortly after he came to the Pentagon in the spring of '73. I remember three things about the
4 lunch. The first was that as soon as we sat down at the lunch table in his office, a mouse came out
5 from behind a chest and started running around the room. The second was that he was a very
6 gracious host and said many nice things about my tenure up to that point. The third was that he said
7 that although he would very much like to invite me to stay on as secretary, he didn't have the
8 authority to ask me. He said the jobs of service secretaries would be filled by the White House to
9 pay off certain political obligations and that it was quite likely that Governor John Love of
10 Colorado would become Air Force secretary.

11 I thanked him for the lunch and said that knowing I wouldn't be asked to stay on was a
12 relief because I had already spent all my money with three kids in college and one yet to go. I went
13 out and started a job hunt which I didn't feel free to do until he told me that. I looked at jobs in
14 Cleveland, Boston, and Los Angeles. After just about settling on a job with Hughes in L.A., I had
15 one more call from Joe Charyk, president of COMSAT asking me to come over for an interview.
16 We talked about this and that and finally agreed that I would take a job as VP Engineering
17 including heading the COMSAT Labs. As I remember it, that was about the middle of June. Within
18 a few days, there was something called the Saturday Night Massacre; it involved the resignation
19 of the attorney general, the appointment of Elliot Richardson to replace him, and the move of Jim
20 Schlesinger, head of the CIA, to replace Elliot. Jim immediately called me to say he had heard that
21 I had taken a job outside the government. I said yes, he had heard correctly. He said "Whoever it
22 is, call him up and cancel it! I want you to stay as secretary of the Air Force." I said "Elliot told
23 me he didn't have the authority to offer me the job so I went out and got a job outside. Are you

1 saying you have the authority to offer it?" He said "Yes. I told the president I wouldn't take the
2 job if I couldn't pick my own people." He said I should call COMSAT and tell them I wasn't going
3 to come to work. I said "Why don't you call Joe Charyk and tell him that?" He said he would but
4 I don't know that he did. The timing was terrible; he called me over the weekend; Monday was a
5 holiday and I was supposed to start work on Tuesday. So on Tuesday morning, I went to COMSAT
6 to tell them that I wouldn't be coming to work after all because I had been asked to stay on in the
7 building as secretary of the Air Force. They seemed a bit disappointed, but since Joe Charyk had
8 been under secretary and no doubt regretted not having served a term as secretary, he understood
9 what was going on. And I had to admit that having started my working career in 1946 as a P-2
10 civil servant at the bottom of the Air Force roster, it didn't seem like the worst of fates to end my
11 career in government in the top Air force job as secretary. Of course it didn't work out quite that
12 way since two years later Jerry Ford asked me to leave the Air Force to do a couple of years as
13 FAA administrator. Fortunately for my ego, he has told me several times since then that I did him
14 a big favor by moving to the FAA to take a job he was having a lot of trouble filling.

15 Jim Schlesinger and I had a good working relationship, but that wasn't true of too many
16 people in the building. Jim was not easy to work for; you had to make a lot of allowances. He was
17 no Mel Laird. Mel was a full-time politician, buttering up everyone and making them all feel good.
18 Jim was taciturn and thought that grownups should work out their own problems; he wasn't going
19 to be a nursemaid for them.

20 INTERVIEWER: Were you considered for other positions within the DOD?

21 DR. McLUCAS: Other positions in DOD? When I was in DDR&E, Paul Nitze was
22 secretary of the Navy and interviewed me for Assistant Secretary of the Navy for Research and
23 Development. He eventually took a guy from Case University. When I was Director of the NRO

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1 and under secretary, Dave Packard talked to me about the Assistant Secretary of Defense for
2 Command, Control, Communications, and Intelligence (ASD-C3I) job. I was never sure whether he
3 felt that job was more important but nothing came of it. I think that was the time he hired Eberhard
4 Rechtin as ASD.

5 INTERVIEWER: What can you recall about the C-5A cost overruns? Did you become
6 involved in this matter?

7 DR. McLUCAS: That subject came up a second time shortly after I came into the building
8 as under secretary. I think it was Pete Crow who was testifying, and Ernie Fitzgerald inserted
9 himself into the action and told the people on the Hill about the overrun problem. It had come up
10 during Harold Brown's tenure. I thought it was Harold's problem and we shouldn't touch it with
11 a ten-foot pole. Somehow Bob Seamans got mixed up in it, but I still felt I had no reason to
12 become involved. I sat it out while it went through court cases or Civil Service action or whatever.
13 Eventually, while I was secretary, the Civil Service Commission made a ruling that the Air Force
14 had to take Fitzgerald him back and give him all his back pay (with interest, no doubt?) and in a
15 comparable job to the one Bob Seamans had abolished. I refused to seat him until we got an
16 opinion that the job we planned to put him in was ruled by Civil Service to be comparable. After
17 we got a letter to that effect, he came back and sat there in that seat for years. I couldn't see how
18 a grown man could sit there taking pay for doing absolutely nothing for all that time. I had visions
19 of putting myself in his place: what would it be like if my grandchildren asked me some day what
20 I did for the Air Force and I said that I drew full government pay for doing nothing for twenty
21 years. Is that the kind of legacy I would want to leave? I don't think so — but maybe he sees
22 himself as having taken on the giant and killing the giant — or at least getting its attention.
23

TAPED INTERVIEW STARTS

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INTERVIEWER: You mentioned Harold Brown as Director of Defense Research and Engineering. Did you know Harold Brown before you became a deputy to him? What type of a man was he to work for? Was he considered to be a "boy genius" or something close to that?

DR. McLUCAS: First of all, Harold Brown was a very intelligent person, but as to your first specific question, I had not met him. I knew that he was there. I knew that he was succeeding a man named Herb York, who had that same job under President Eisenhower, and I had known the predecessor of Herb York, who you might say started the office--a fellow named Eric Walker. At that time we had something called the Research and Development Board, and Eric Walker was President of Pennsylvania State University, and I was a member of the Penn State community. And so, I knew him. But anyway, the DDR&E began to become more established, and about that time Herb York came in to head it and he was replaced two or three years later by Harold Brown.

Up in the Penn State community was a man who one might say was an activist, a Vice President of Penn State, and I'll think of his name in a minute, who was circulating back and forth between Washington and Penn. State. His name was McKay Donkin. And on one of his Washington trips he talked to one of Harold Brown's deputies, who was a Navy three-star named Charlie

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1 Martell. Charlie Martell was the Deputy for Administration, and they discussed an opening and who
2 might be able to fill it. This Penn State Vice President told Martell that he knew a man back in the
3 Penn State community that might be willing to take the position. He further commented that he had
4 no idea if he was interested.

5 At that time I was living in an old farmhouse that had been refurbished out on the edge of
6 town, about 5 miles out. I looked out — we had had a snow at the time—and there was a guy
7 coming across the snow in snowshoes. I had never seen anyone out there in snowshoes coming
8 down a hill toward my house. I stood there and watched him, and sure enough, he came up to the
9 door. It was a fellow named Donkin. It sounds D-u-n-c-a-n, but it's spelled D-o-n-k-i-n. He came
10 up to the door and greeted me, and said, "I've been talking to my friend, Charlie Martell, in
11 Washington, and he said his boss Harold Brown is looking for a deputy for tactical warfare, and
12 when he described the qualifications, I thought of you. What do you think of that?" And I said, "I
13 don't know."

14 So, one thing led to another, I went to Washington to meet and talk with Charlie Martell.
15 I guess he was favorably impressed because he arranged for me to go in and chat with Harold
16 Brown for a while. It was the first time I had ever met Dr. Brown. He is a very smart and
17 intelligent man. Our meeting took place in February or March 1962. The DDR&E were still at the
18 point of getting their act together even though they had been in existence for a year. Harold Brown
19 had two or three deputies, but this particular job was still open. Putting it differently, this job was
20 judged important enough to justify a deputy DDR&E rather than continue to be subsumed under
21 another deputy who covered both strategic and tactical matters. I talked about the position with my
22 wife and colleagues, and in about a month or so I made further visits to Washington. After
23 discussions with mutual friends I decided to take the position. Of course, I was required to leave

1 my present job in some sort of rational way; and that took a while. So, I actually came to
2 Washington in May that year to start the job. So, to answer your question, no, I did not know
3 Harold Brown before I started to work for him.

4 What type of person was he?

5 INTERVIEWER: To work for?

6 DR. McLUCAS: Well, you know, we became friends. So, what I say will be biased by the
7 fact that I am a friend, therefore, you might say favorably disposed. Actually, it was a very mixed
8 kind of an environment to work with and specifically, to work with him. He's very smart, very
9 intelligent, and tended not to be too patient with people who didn't know what they are talking
10 about. And here I was, a brand new recruit, not familiar with Pentagon ways and so forth. So on
11 the one hand, he's very abrupt, he's wishing he had smarter people around him. On the other hand,
12 he was very good to work with. And for me he realized that I was giving up a good job which paid
13 well in a nice community, to come to the Pentagon to take a job at half the pay, in a new
14 environment, and he obviously realized that I couldn't be very well up to speed. He really was very
15 nice to me, very fair in judging me, and pleased that I had taken the job, etc. So, I would say, to
16 the major extent, then, the atmosphere was one in which I was welcomed and appreciated. So, it
17 was quite positive in that sense.

18 What was he like to work for? I'm trying to describe what it was like. It was certainly not
19 negative, mostly positive. Yet, I felt like an outsider trying to learn my way around. And I
20 remember the feeling of being totally overwhelmed by the stuff I am supposed to know. People
21 talked of all kinds of weapons systems that I hadn't worked with. The Army had something called
22 a (MAULER), for example. This was a missile system on tracks, and it turned out we had a lot of
23 trouble with it because they were going into full-scale development but had not yet even

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1 demonstrated that the damn thing would have worked in the first place. And of course this led to
2 the typical Pentagon questions. Are these guys asking too much? Are they going to fall on their
3 face? Can they really deliver? And the same was true on a lot of different weapons systems. When
4 I first started we were beginning work on something called the TFX (Tactical Fighter Experimental).
5 Are you familiar with that?

6 INTERVIEWER: Yes.

7 DR. McLUCAS: And that was terribly controversial. The question was, does this company,
8 General Dynamics know what they are doing? Could they build it? Was the whole thing a good
9 idea? Was it too advanced? Here the Pentagon planners were talking about buying thousands of
10 these. And buying them in such large quantities that you get them for \$2.5 million apiece, and so
11 forth. And yet, not one of the airplanes had been built, not even the prototype. And now we are so
12 smart, we can take a computer and design this airplane, put the parts together and fly it, and bypass
13 all that long, drawn-out prototyping business. And all that was a very controversial program.

14 Well, there were dozens of those things like that, and all of a sudden I'm supposed to be
15 up to speed on all of these, and it's very daunting to be thrown into the middle of such an
16 environment. So for the first few months it was hell just trying to get up to speed so I could
17 participate in a conversation. After about six months, I began to feel that I knew as much about
18 these programs as the other guys. So from then on, it was just a question of how much I could
19 handle, getting better acquainted with people, systems, and organizations and adjusting to the
20 facilities.

21 INTERVIEWER: Then, he must have had a good opinion of you?

22 DR. McLUCAS: Well, yes, we had a very good relationship, and he was considered good
23 to work for, certainly by some people. He was also considered very. . . I'll have to use that word

1 daunting again, I guess. He was so smart. He always asked the tough questions. A group of military
2 people would come to his office to brief him on some topic. They had a stack of charts about a foot
3 high. Harold Brown comes in and he says, "I don't have time to look through all these charts with
4 you, just answer the key questions." They said, "Well, sir, we're prepared to go through this, and
5 what do you mean the key questions?" He would respond, "Don't you know what the key questions
6 are?" It tended to throw them off base. I saw dozens of guys come down and get overwhelmed by
7 this approach. I remember one official who had a sign on his desk that said, "Don't brief me. Tell
8 me what you know." That was Harold Brown's attitude. Cut out these long-winded briefings. Let's
9 cut to the heart of it. And in that sense I would say he was a daunting person to deal with, and I
10 would say there were many who would say he was not well liked. He was admired by the people
11 who respected his brains. On the other hand, people who were overawed by having to brief this
12 very smart guy were afraid of him.

13 INTERVIEWER: But he was not like McNamara, right?

14 DR. McLUCAS: No. He wasn't. You know, McNamara was a sort of machine, and people
15 were just overwhelmed by him. But it was different with Harold Brown. He was less impersonal
16 than McNamara. People were cowed by him you might say, by the fact that he wanted to cut to
17 the important questions. Now, I'm exaggerating for the purpose of showing examples. But
18 sometimes he would look at and go through these charts and have a discussion with briefers and
19 so forth. Other times he was just too busy to go through all that rigmarole. There was a school of
20 thought about that time that one of the important things a young officer needed to do was to put
21 on a dog and pony show, and so forth. Brown didn't care for and was not impressed by that sort
22 of thing. I guess a lot of that style of briefing still goes on.

23 INTERVIEWER: Yes, with enhanced graphics now. How about General Shriever and the

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1 TFX? You mentioned his dislike of the TFX. In addition, can you recall anyone besides Secretary
2 of the Navy Fred Korth liking the TFX?

3 DR. McLUCAS: Well, it became sort of a test of loyalty to McNamara's system, I guess.
4 First of all, Harold Brown liked the TFX. He was forced into the position of supporting it because
5 the source selection became controversial. Harold Brown, Secretary of the Air Force Eugene
6 Zuckert, and Fred Korth were the three men reporting directly to McNamara who were put in a
7 position of saying the Air Force and the Navy will build and support it.

8 First of all, they wanted the airplane because McNamara had a theory that you could build
9 one plane that would satisfy all the services. If each service needs a new airplane, why do the
10 aircraft have to be different? Why can't you just have one aircraft and everybody buys it? This
11 gives you a longer production run, simpler spare parts for stocking, simplified maintenance
12 procedures, common training of the technicians, and so on. And you can imagine drawing up a list
13 of 1,000 advantages for doing something like that. But the argument remained, Will the airplane
14 do what the services want? And, of course, the services were a mile apart on that.

15 But when you get to the Secretaries — Fred Korth, Gene Zuckert, and Harold Brown (who
16 was treated at the same level as those other two, even though he was in a new slot, DDR&E)—these
17 three men were principal advisors to McNamara. McNamara dealt intimately, you might say, with
18 only a handful of people, three of whom were the men I've just mentioned. And then he had
19 Charles J. Hitch as Assistant Secretary of Defense (Comptroller) and Alain C. Enthoven, Assistant
20 Secretary of Defense (Systems Analysis), as his analyst. You might say, those five guys were the
21 people who had continuous access to McNamara. And McNamara was the source of all wisdom.
22 They tended to develop a sort of "us versus them" attitude about things. Then, all the uniformed
23 people were sitting there looking at McNamara and his team wondering how do we penetrate that

1 and how do we deal with it. It wasn't easy. Zuckert was more in tune to work with people. Korth
2 was a political appointee, and was going to demonstrate his loyalty to McNamara. The source
3 selection committee felt that Boeing should build this airplane, but there was a school of thought
4 held by a few people who felt General Dynamics should build it, and Fred Korth thought that was
5 a terrific idea. I mean, it was to be built in his own state — Texas.

6 So in that sense, it was a very easy decision for him. It ought to be built in Texas. So you
7 had Korth with a personal interest in seeing the project go to Texas and Harold Brown with a
8 personal interest in seeing the success of the McNamara philosophy that we would have an airplane
9 that would be used by both services. We had Zuckert, as far as I know, not having formed a strong
10 opinion about Boeing versus General Dynamics, but if it made McNamara happy to have it done
11 in a particular way, then that way was okay. I don't remember Charlie Hitch or Alan Enthoven
12 playing much of a role at the time, but I'm sure that they were saying things like, well, the
13 McNamara concept, one plane for all services, makes financial sense. And so, you have this small
14 group, this handful of McNamara men, lining up saying this is a good thing to do.

15 INTERVIEWER: The Navy eventually got out of the project because the plane was too
16 heavy for their carriers.

17 DR. McLUCAS: Well, that's right. Shriever's dislike of it was, first of all, Boeing was a
18 favorite supplier of the Air Force. Now, he would say that he had plenty of good reasons for
19 supporting Boeing, but I think it would all boil down to the fact that he had more confidence in
20 Boeing. And let's see, what had General Dynamics done lately? They had done the F-102, F-106
21 combination. They had built the B-36. The F-102 had a good reputation, the F-106 was just
22 retired. The B-36 was a big clunker. The B-58 was flying, but it was questionable whether it was
23 a good airplane.

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1 And, now, I'm trying to get to the question of what did Shriever think of all this. I think
2 that he just thought that the design that Boeing was onto made a lot more sense because they had
3 built a lot of good airplanes and they could do it again.

4 INTERVIEWER: I wanted to ask you about your relationship with General Shriever. You
5 mentioned him a couple of times in the questions.

6 DR. McLUCAS: Well, he and I have always been very sympatico. I don't know, I've just
7 always been impressed with the guy. Now, he's no genius, but he's almost as good as a genius in
8 the sense that he had a good feel of what this program was about, and how we have got to get
9 cooperation on it, how we have got to motivate our people, and how we have to defend getting our
10 resources, sell it on the Hill, and so forth. By and large, I have always had a very high opinion of
11 him.

12 INTERVIEWER: By the time you first met him he had an established reputation with
13 missiles, didn't he?

14 DR. McLUCAS: Yes, he did. He had built the missile program from scratch and made it
15 work, and so, he was a hero to a lot of people.

16 INTERVIEWER: Was he well respected within the scientific community? You just
17 mentioned that he was no genius.

18 DR. McLUCAS: Yes, he was, and of course he — as I have said, he did that missile
19 program with the Ramo Woldridge firm—he had given them a lot of latitude, and they had used
20 their access and their special treatment and so forth to their advantage. But they delivered the goods.
21 I remember being very envious when I was out in the civilian world of the fact that Shriever gave
22 Ramo Woldridge such ready access to all his deepest secrets, and he paid them well. Most of us
23 got our 7 percent profit on contracts, and they got 14. Shriever would have told you, and I guess

1 he will today, that the reason they got a higher profit is because they were restricted and not
2 allowed to capitalize on a lot of the things that they conceived and brought up and so forth because,
3 in order to maintain their objectivity and ability to oversee other contractors, they would have to
4 say no, I won't go into production on these things ourselves, and, therefore they deserved the right
5 to be paid very well for the oversight job they performed in contrast to some other company that
6 might make just a few percent but would get billions of dollars in subsequent contracts. A few
7 percent of billions would be a lot more than 14 percent of millions. So, anyway, the scientific
8 community saw that the country was in crisis, at least they interpreted it that way. It was "The
9 Russians are coming" mentality. The Russians are doing all these wonderful things, and here we
10 are dragging our feet. We've got to get in there, we've got to move fast, and we've got to get the
11 top people working. And Shriever sort of coalesced all this effort. So the scientific community
12 respected him in a sense that there was an emergency, he's the guy in charge, and you've got to
13 support him, unless he doesn't make sense. They noted that he seemed to be making sense, so they
14 had a high opinion of him.

15 INTERVIEWER: As a manager, right?

16 DR. McLUCAS: Yes, right. Now, he was an expensive manager. He believed in having
17 enough money and not scrimping. He believed in parallel processing. If he had an important job
18 to do, you had better have two guys trying it. If one fails, then you don't go down the tubes.

19 INTERVIEWER: Let me bring up the question of McNamara since we have mentioned him.
20 Can you recall anyone being friendly with him or liking him as a person or any of his schemes?
21 There is the impression that most people just didn't like him or his policy; is that the way you see
22 it?

23 DR. McLUCAS: Well, when you put it on a numerical basis, it's certainly true, but he did

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1 have this inner circle. As I mentioned there was Harold Brown, Charlie Hitch, and Alan Enthoven.
2 They thought McNamara was a terrific person. He wasn't likeable. What we're talking about here
3 is respect. They thought he was on to some good things and they should support him. After all, the
4 services were seen as ingrown and antiquated, with the old-boy network and the military spit and
5 polish that prevailed. They felt it was more important to get things done and organize their weapons
6 and build up a Department of Defense as opposed to three separate services, and they believed that
7 they had to get on with it. In this situation there is going to be blood on the floor sometimes, and
8 there are going to be a lot of people upset, but most of these are old, starchy guys, the 3- and 4-star
9 generals and admirals. It's okay to shake them up. I mean, their rationale was that these old guys
10 are lethargic, and don't know anything about modern management, and so forth. So, if you have
11 to push a few of them into the ground, retire some of them early, and don't pay too much attention
12 to their thoughts, that's okay. That's a task that needs to be accomplished in modernizing the
13 system.

14 INTERVIEWER: And that is what he did. He didn't pay much attention to them.

15 DR. McLUCAS: That's right. And there was a very — I have trouble coming up with the
16 right words for this—but a very daunting atmosphere to work in. These guys were cowed in front
17 of this guy McNamara. He'd push them down and not pay any attention to their thoughts. He didn't
18 believe at all in the military tradition and just didn't see that the old-boy network had any
19 advantage. These things were just impediments in his way and complicated his effort to modernize
20 the Department of Defense.

21 INTERVIEWER: I guess that's why President Kennedy got him as his Secretary of
22 Defense, because he liked his management style? I can think of one other thing you mentioned
23 previously about having the one plane for the two services. Well, I would wonder how McNamara

1 rationalized that with his experience in the automobile industry — you know Ford as well as the
2 other automobile manufacturers, Chrysler and GM, made many models of their products. I suppose
3 that's giving the public a choice that they could pay for versus giving the taxpayer a choice they
4 might not want to pay for. Maybe that is what he was thinking.

5 DR. McLUCAS: The taxpayer deserves to get a bargain. I guess we would also have argued
6 that, although I don't remember this specifically coming up, that I'm not saying that you've got to
7 get rid of all the other airplanes. I'm just saying that there is a multiservice need for a tactical attack
8 type airplane, and to the extent that the need exists, we should buy off of the same production line — the
9 Army, Navy, and Air Force. Now, the Army was able to wiggle out. The TFX was too heavy. They
10 needed something smaller and lighter and cheaper, but the Air Force and Navy were stuck with it.

11 INTERVIEWER: And after he was gone, I guess the Navy got out of it?

12 DR. McLUCAS: Immediately.

13 INTERVIEWER: We touched a little bit on this subject of Gene Zuckert. What about him
14 during the period? Do you think he held up well under the McNamara regime? Do you recall?

15 DR. McLUCAS: Well, that's a hell of a good question. I thought he did a good job of
16 trying to bridge that gap between the Air Force military and the superstructure that existed in
17 McNamara's office. His attitude was that we have got to work this out; let's give and take here and
18 there. It's about the only way to do it. We've got to get the military to accommodate what
19 McNamara wants us to do, and we have got to do it within the system. We have just got to make
20 it work. He was obviously being pressed by McNamara. I think I might have put something in my
21 previous notes about his dressing on the way to the office.

22 INTERVIEWER: Yes, yes. He wanted to get there at about the same time McNamara did.

23 DR. McLUCAS: He just didn't like the idea that he was asked to get to the office that

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1 early; and after all, he had been a lawyer. Lawyers tend to start late and work late, and here's
2 somebody that wants him to get up early and be at work at 7 o'clock and not only be there, but be
3 organized and ready to go and up to speed. It just sort of went against his grain. But it was part of
4 the price one had to pay — if you can't stand the heat, then you had better get out of the kitchen.
5 If you want to be Secretary of the Air Force under McNamara, you have to do it. So, he tried his
6 best to do it.

7 INTERVIEWER: At this time when you were with DDR&E did you ever think about taking
8 a job as Undersecretary or Secretary of the Air Force? Was there anything attractive about that?

9 DR. McLUCAS: Well, there was one thing attractive about it. Those guys, obviously, were
10 on the decision corridor — the E Ring. They were the guys making the decisions, calling the shots,
11 and deciding what was worth doing and what was not, and that had a certain appeal. I liked being
12 on the inside, not the outside. So when — I'm trying to think when this happened—when Fred Korth
13 left as Navy Secretary and Paul Nitze took over, I think it was, I would say late '63 or something
14 like that, we had a couple of Secretarial changes. The General Counsel, Cy Vance, became Army
15 Secretary, Paul Nitze became Navy Secretary. He had been the ISA (International Security Affairs)-
16 type in the Pentagon-State Department. Paul Nitze said to me, "I have got to have an Assistant
17 Secretary of the Navy for Research and Development. Are you interested?" We discussed this
18 possibility at some length, and, to make a long story short, he picked someone else. You know, that
19 sort of forced me to think about whether I liked it. I needed to stay around the Pentagon longer to
20 take a higher position, but since I had planned to stay there only 2 years, I would have had to move
21 to a specific service as opposed to moving a little further up on the McNamara organization chart.

22 INTERVIEWER: Okay, let me move on to the NATO position. What was the attraction of
23 the NATO job for you?

1 DR. McLUCAS: Well, I think it was mainly that it was in Paris. I had been to Paris only
2 a few times, but I thought it was such a glamorous place, and to actually be paid to go there, that's
3 pretty positive. By that time I was up to speed on all the weapons programs that were going on,
4 and the idea of becoming more of a player in the broader scene appealed to me. When I left I wrote
5 Harold Brown a memo in which I attempted to size up my two years in Washington, specifically
6 what I liked and what I didn't. I don't remember all that I wrote, but one thing I do remember was
7 that I said the structure and day-to-day relationships were such that I spent most of my time with
8 my nose to the grindstone inside the building, and I would have liked to have gotten out more and
9 had more interaction with the State Department and other branches of the government in
10 Washington, and more time to testify on the Hill, and so forth. And then, when this NATO thing
11 came up, going to Paris would expand my horizons. (telephone ringing). So, the deal was mainly
12 go to Paris spend more time in the government, and, therefore, learn more about how things are
13 supposed to work.

14 I'm not sure this is true, but when Secretary of the Army Elvis T. Stahr didn't like some
15 of McNamara's methods and word of it got to McNamara, I heard that McNamara said that if that's
16 the way he wants to play, then we will have to get him off the team. So the Secretary of Defense
17 made life even more miserable so that Stahr would leave. Who knows? That's scuttlebutt, as we
18 used to say in the Navy. But what I was saying was there were a couple of changes — Korth left
19 and was replaced by Paul Nitze, and Stahr left and was replaced by Cy Vance. By the way, Cy
20 Vance was somebody I had a lot of respect for. I thought he was a terrific guy. When Jimmy Carter
21 picked him as Secretary of State, I was beginning to wonder if this was an example of the Peter
22 Principle. You know, if you take a good man and push him higher and higher in the government,
23 eventually, you get to the point where he's over his head. Anyway, to get back to your question.

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1 INTERVIEWER: We are on NATO. You mentioned you took the job against the advice
2 of friends. Who was the hiring official — the person that hired you? How did you manage that
3 position?

4 DR. McLUCAS: Well, the hiring official would have been the Secretary General of
5 NATO. But in a practical sense, the hiring official would be the Assistant Secretary of State for
6 European Affairs, someone with a title like that. He knew that the previous incumbents were all
7 scientists. They were from the scientific community, and it really was another ole-boy network type
8 of thing. We had a couple of guys from M.I.T. and Harvard and one from Scripps Oceanographic
9 Institute, and they were all scientists. There was going to be a big change with my coming in.
10 NATO would have a new committee which decided that instead of hiring a scientist to chair the
11 science committee of NATO, from now on they had to pick a guy who would be at home not only
12 with science but with defense research. The new committee was a committee of defense research
13 directors — the Harold Brown's of the world. I had to chair both the science and defense research
14 committees. So Harold got in the act, and he said, "We need someone who can chair NATO's
15 Science Committee and also its Defense Research Committee." Since I had a few degrees in
16 physics, you could claim I was a scientist, although I had never worked as a scientist. I had worked
17 as an engineer, not as a scientist, until I became a manager. But anyway, you might say in a more
18 practical sense, Harold Brown was the one doing the selecting. A new committee had been created,
19 and he would be going to those meetings as a member, so he wanted a boss or a chairman he could
20 work with.

21 INTERVIEWER: So that's what he did. Because he needed a friend in court, he picked
22 you?

23 DR. McLUCAS: Yes. He talked to the people at the State Department, and they said that

1 if that's what you want, it's okay with us.

2 INTERVIEWER: Did he want you to stay on as deputy of DDR&E?

3 DR. McLUCAS: Well, he understood that that wasn't going to happen.

4 INTERVIEWER: Two years' tenure?

5 DR. McLUCAS: I had signed up for two years, and neither of us ever questioned that. He
6 did say to me that in retrospect we should have been smart enough to see that two years were going
7 to go very fast, and it would have been better to pick someone who could stay longer, but that was
8 never discussed as an option. So we both just accepted the rules that we had established.

9 INTERVIEWER: When you were at NATO, what types of common weapons did you
10 consider developing?

11 DR. McLUCAS: Yes, that was the concept. If you had asked did you actually come up with
12 weapons that should be developed on some common basis, I don't know that we ever got that far,
13 frankly. It was mostly a time of trying to get organized. International bodies move at deadly slow
14 speeds. You can imagine all these various Harold Brown's of the world coming together, looking
15 at each other very suspiciously and asking Who the hell are you? and Why should I work with you?
16 and so forth. The committee itself meets only two or three times a year, and these people needed
17 time to learn something about each other before they could talk about concepts. You would discuss
18 the money you could save by having common weapons. You would discuss how you could simplify
19 the logistics with common weapon systems. You would discuss all the pros and cons and generally
20 conclude that it was a wonderful concept. You could certainly save lots of money and concluded
21 that wouldn't we be better off ten years from now if we had started doing it right away. There is
22 lots of talk, and that's how these international bodies are. And so I'm sort of stalling for time to
23 think a little bit more about this.

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1 INTERVIEWER: I think what you have here is the roots of the NATO fighter, the common
2 NATO fighter. Were you trying to think of things like that?

3 DR. McLUCAS: Well, yes, but to a great extent what these common NATO programs
4 consist of is people coming in with certain bargaining chips, such as I've got a F-104 (And later
5 it would be the F-16) and you've got a Mirage, and each of us is trying to persuade the larger group
6 that our airplane is great and maybe you will want to make a couple of improvements but, by and
7 large, we have got the machine you need. It's sort of like that. On the other hand, if we start early
8 enough, take for example with a battle tank, we could start early, and two or three countries could
9 get together and develop this tank, and we could all buy it off the same production lines. I would
10 build the treads for all of them, and you do the same for all the chassis, and we would both save
11 a lot of money. You could imagine we could talk about that for years before we actually had to cut
12 any metal. And things move very slowly, but let's face it, one of the biggest things in NATO has
13 been the feeling of camaraderie. The real effort is to get these countries feeling comfortable with
14 each other. And when you get them feeling that we have a common destiny, you get people to feel
15 that they know people, and if a war were to start, they would actually have friends to work with.
16 You could start with people you knew instead of people you are still trying to meet. When we had
17 meetings where representatives from different countries would come, you'd look at the table that's
18 outside the meeting room door and see all these military hats piled on the tables—hats representing
19 people from 15 countries. And all their hats are lying in the same pile. Isn't this wonderful? I mean,
20 they are all working together, really together. We have common enemies, we love each other, and
21 this is wonderful. It's mainly a feeling—that's what NATO is about. It's mainly a political union
22 of people who know how to work together, and fortunately you've not had much experience
23 fighting together. We've had a lot of experience in meeting together. We've had the NATO Defense

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1 College that people attend to take a postgraduate course and get to know Greek officers, Spanish
2 officers (later), and French officers--you name it. All 15 members, now 16--it's just a way of
3 keeping people engaged with each other. That more than anything else is what NATO is and was.
4 Now, when you get to the point where you have to talk about the fighting, the NATO fighting, that
5 is one hell of a problem, as in Bosnia and places like that. So you have the Soviet threat and you
6 have a feeling of camaraderie, all these countries united.

7 (END SIDE ONE, TAPE ONE)

8 (BEGIN SIDE TWO, TAPE ONE)

9 DR. McLUCAS: So the common interest in working together was terribly important in the
10 military sense. It's not just fluff; it's real. As far as the international meetings and all that is
11 concerned, a lot of it is trying to keep people working together irrespective of what they are doing.
12 So, to respond to your question as to whether our defense directors ever came up with a long list
13 of weapons that they intended to develop, well, the answer, I guess, would be no, but we did have
14 four or five weapon systems that we talked about. We did agree on certain things.
15 Eventually, let's say when I came back as Under Secretary of the Air Force, we worked on the
16 lightweight fighter. It wasn't too long as the program went along that the fighter became the F-16,
17 and the F-16 became a candidate for purchase by a lot of NATO countries. And so, there we were
18 actually selling the F-16 and actually finding ways that different parts of the airplane could be built
19 by the Belgians, and so forth. It was mainly a way of selling U.S. hardware, but it was also a way
20 of pulling out enough parts so that the Belgians' production facilities could be engaged, and Norway
21 and Denmark could see something they could do to make their armaments people happier. It
22 became sort of a bidding war between us and the French. Could the French offer more common
23 production on their Mirage 2000, or whatever it was, versus the F-16, where the Belgians could

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1 build a good part of the aircraft. So I'm trying to trace sort of the development of this concept.

2 I don't know whether what I'm saying makes any sense or not, but I'm trying to reflect on
3 the atmosphere back then, when I worked there.

4 INTERVIEWER: Your comments are excellent. But now, let's shift from NATO. Let me
5 ask you a question about Gene Fubini, the fellow who gave you the advice that you wouldn't be
6 authority-limited, but rather wisdom-limited in Washington. Was he presaging the TFX, the CX and
7 so on? What happened to him and how long did he stay in government? What was he about?

8 DR. McLUCAS: Well, he covered the electronic side. Harold Brown had various people
9 who came in, and he had sort of a shifting organizational structure. So depending on the exact time,
10 for example, different people were doing slightly different things. Gene came in covering mainly
11 the electronic side of weapon systems. Or if there was some question about intelligence-gathering
12 equipment, this kind of thing, Gene was involved in it. Over time, Harold felt comfortable with him,
13 and gave him new and different assignments. When communications satellites came along, Harold
14 gave him a role in trying to decide how we would develop them. He addressed such issues as to
15 what extent did we plan on using commercial satellites, and to what extent would we develop our
16 own. There was a satellite program, for example, called Advent, whereby the Army was going to
17 develop this big geosynchronous satellite. That program fell flat because the technology was not
18 ready, and in that sense, this was typical of many things that we got into.

19 INTERVIEWER: Advent you called it?

20 DR. McLUCAS: Yes, Advent. The services would get sold on some fancy new system — a
21 weapon system, communication system, whatever. It was new and wonderful and high tech. Very
22 often the role of Harold Brown's office was to say, look, the technology is not ready for that. If you
23 get into that, you are going to find you're premature, you won't be able to meet the specifications.

1 You won't be able to do all the things, all this list of wonderful things, that the system is supposed
2 to do because it just won't do it. You are going to fall on your face. You're going to waste money.
3 So this was a conflict, you might say, an adversarial relationship, that lay behind a lot of the things
4 that occurred in the early McNamara era. You had the services trying to push the state of the art,
5 you had the wise old men who were whiz kids sitting on the third floor saying, You're out of your
6 mind. You're too far ahead. That won't work. You had better settle for more modest goals. Now,
7 both sides had validity; you have got to keep pushing the state of the art. The people who wanted
8 to do so were correct, and the people who were saying, look, it won't do half of what you claim
9 it will do, you are going to fall on your face—they were usually correct too so it was a ready-made
10 conflict. And Gene Fubini was right in the middle of a lot of those issues. The Advent — I was just
11 saying it was a good example: I had never thought about this before, but it was.

12 Gene sold the idea that they could build a synchronous satellite. No such satellite had ever
13 been built, but if you had synchronous satellites, think of all the wonderful things they would do
14 for you. You would have three of them around the world 120 degrees apart and have worldwide
15 communications.

16 INTERVIEWER: How do you say the name of that satellite again, sir?

17 DR. McLUCAS: Synchronous, but geosynchronous is what I should be saying.

18 INTERVIEWER: Geosynchronous.

19 DR. McLUCAS: It means it is fixed in the sky like all the satellites you're used to now,
20 but at that time such things didn't exist. And the satellites we knew how to build were low-altitude
21 ones that dashed across the sky in a few minutes. The systems that had been built up to that time
22 included the Telestar. It had a visibility time of 10 or 15 minutes, and then it was gone. You had
23 to have a string of them going around following one another if you wanted a system that could

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1 transmit continuously. Let's say you wanted to transmit to Europe, and the satellites are moving
2 from here to Europe in a few minutes, so you have got to have another one moving somewhere
3 between here and Europe that you can see. Then, along comes this idea to put up a synchronous
4 satellite that sits still in the sky. It is always there. You only need three of them properly spaced
5 in the sky and you can talk to every place on the earth. And so Gene was right in the middle of this
6 and, unfortunately, he and his pals were correct in saying the Advent was too far advanced. You
7 are asking for too much. As it turned out, while the satellite was being built, everything Gene and
8 company had predicted came true. The satellite kept getting heavier, and the Army kept thinking
9 of more uses for it and kept asking for more capacity. The Army should have been asking for less,
10 and instead, it was asking for more. So the satellite was growing and it became so heavy it couldn't
11 be lifted. The Army had no rocket that could put it up where it was wanted. So the project was a
12 fiasco and was eventually cancelled. In the meantime the Army planners started buying ground
13 stations, and they were going to have the ground stations even though there was no satellite up
14 there. So in the middle of all this, along came Hughes. Hughes Aircraft Company had an engineer
15 named Hal Rosen who said, hey, I can build you a synchronous satellite. It will be small compared
16 to Advent, but it will work. And he tried selling it all over town. Everyone knew was that the Army
17 was having trouble with Advent, and here comes Hughes saying they can do something that AT&T
18 and General Electric can't. That's weird. But to make a long story short, Fubini eventually got what
19 he needed to build their first synchronous satellite, which was called Symcom.

20 INTERVIEWER: To be synchronous, do you have to get it above the orbit of the Earth?

21 DR. McLUCAS: You have to get it up to 22,000 miles.

22 INTERVIEWER: Then, it stays there. Basically, it's out of orbit.

23 DR. McLUCAS: You have got to get it to a place where it will sit still. In general, as you

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1 put a satellite higher, it slows down. Eventually, you get it to where it slows down to the point
2 where it's just spinning around the earth once every 24 hours, and it looks like it's fixed.

3 INTERVIEWER: I see.

4 DR. McLUCAS: Anyway, the idea was wonderful. By the way, we just celebrated the 50th
5 anniversary of the first paper that described this synchronous orbit, in October, 1945. The first paper
6 was written by Arthur Clarke. October 1995, was, obviously, the 50th anniversary, so 50 years after
7 Arthur wrote his paper, we have hundreds of these synchronous satellites up there carrying all the
8 TV programs in the country and everything else. But in 1962 when Fubini and I were working
9 together in the Pentagon, such a thing had never been demonstrated. The satellites we knew about
10 were the ones at 500 miles, not 22,000 miles. You know, it sounds pretty weird to put them up that
11 high. Of course the rockets to get them up there just didn't exist then.

12 INTERVIEWER: Clarke's paper was really ahead of its time.

13 DR. McLUCAS: Yes.

14 INTERVIEWER: Was he speculating on what the technology could do in the future?

15 DR. McLUCAS: At the time he was 20 some years old.

16 INTERVIEWER: Is he still around?

17 DR. McLUCAS: Yes, but he's getting old (born in 1917). I'm still in touch with him.

18 INTERVIEWER: Were there times you made decisions when you didn't have all the
19 information that you would have liked?

20 DR. McLUCAS: If you don't mind, let me go back to Fubini for just a second or two. I'd
21 like to describe what happened to him and how long he stayed in government, for example. He
22 stayed in government — I guess he came in in '61 and stayed until '65—in other words, he stayed
23 through Harold Brown's term as a DDR&E. And when Harold was replaced by Johnny Foster,

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1 Gene had become so close to Harold that he left with him. Gene went to IBM and got a job as vice
2 president for R&D or something like that. I don't remember exactly what the title was, but it was
3 a job a fellow who doesn't know all the interworkings of the system might be able to do and not
4 depend on a lot of details. So he was there for quite a few years. Eventually, Harold Brown would
5 come back into government, but when he left the DDR&E job, he took the job as Secretary of the
6 Air Force, so Gene served as a sort of an outside advisor to him during that period. Gene liked to
7 work through advisory committees, which is what he did under Harold when he was DDR&E. The
8 advisory committee is called the Defense Science Board. Gene became very thick with the people
9 who were on that board, including me when I was there. When Harold went to the Air Force, the
10 advisory committee was the Scientific Advisory Board, and Gene went to work with that board. At
11 this time, Gene was out of the government. He was at IBM and working through these advisory
12 structures and making his influence felt because he still had friends in high places. He had Johnny
13 Foster as a friend in DDR&E; he had Harold Brown as a friend in the Air Force. Gene worked with
14 the two of them through these advisory committees. He stayed involved. Then, when Harold Brown
15 went to Cal. Tech, Gene continued his relationship with the Defense Science Board. So Gene
16 continued is involvement through the advisory structure. Whe Harold came back as Secretary of
17 Defense under President Jimmie Carter, Gene was back in full flower. He ran the Defense Science
18 Board either directly or indirectly through connections. This gives him ready access to Harold
19 Brown's office and allows him to look over Harold's shoulder on everything that's going on. He's
20 in seventh heaven. There is nothing he didn't receive. He is the gray presence behind Harold Brown
21 on almost anything technical. He has day-to-day access to Harold. To the extent that Harold needs
22 any technical input (you could debate whether he needed it or not because he was technical
23 himself), there is Gene pulling strings, doing favors for Harold, scratching Harold's back, getting

1 all his kicks, and so forth. Gene was around all during Harold's tenure as Secretary of Defense.

2 In the middle of all that, he left IBM to become just a consultant and board member. He
3 lived in Washington and stayed on as an advisor to various people, but I'd say the high point of
4 his life was his service as a technical advisor in an unofficial capacity to Harold Brown. He has
5 gotten in bad health the last couple of years and basically, for all intents and purposes, his
6 productive life is over. He's considered out of it.

7 INTERVIEWER: Is he in his 80s?

8 DR. McLUCAS: Yes. He's 80 years old. But I talked with a mutual friend lately who said
9 that he went to see him for old times sake, but he wasn't sure that Gene recognized him. So that's
10 why I say his life is essentially over. Gene was a very active man and very bright, very much of
11 a mixer-upper.

12 INTERVIEWER: You remember what he said to you about being wisdom limited?

13 DR. McLUCAS: I will never forget it. It's the truth.

14 INTERVIEWER: Then, that brings me to the next question. Were there ever decisions that
15 you made about which you didn't have all the facts or you wished you had had more?

16 DR. McLUCAS: I would say that applied to just about every decision. I think one of the
17 most constant things about being in a decision position is that you never have all the information.
18 And to a great extent, the effectiveness of a manager is his willingness to make a decision when
19 he knows he doesn't know all he needs to know. Because if you go too far with making a decision
20 with nothing, it's probably going to be wrong most of the time. If you wait until you get what you
21 need, you will be wrong by not ever acting. So my advice is, get as much information as you need,
22 not as much as you might want and then make the decision.

23 INTERVIEWER: Who was the right man for your old job in the DDR&E. Who was he?

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1 DR. McLUCAS: What's the question?

2 INTERVIEWER: Who was the right man for your old job in the DDR&E?

3 DR. McLUCAS: I think I mentioned that in connection with my return from NATO. It
4 turned out what I thought was the right man turned out to be a good guy named Bert Fowler. His
5 actual name is Albert Fowler, but people left off the "Al" and called him Bert. He was a Fubini
6 protege. He followed Gene Fubini at Airborne Instruments Lab., and I think that's where I first
7 knew him. I had served with him on advisory committees. We got to know each other, and I came
8 to respect him, so when the job came open, after the man who replaced me was leaving, I
9 nominated Bert Fowler, and he eventually took the job even though he said he wouldn't. He did
10 a terrific job in the position, and later he became head of the Defense Science Board.

11 INTERVIEWER: I want to talk about your relationship with Bob Seamans prior to his
12 recommending you to be Under Secretary of the Air Force? Did you know him well?

13 DR. McLUCAS: Well, a quick answer to the question is not that well. I knew him enough
14 to know that he had a good reputation. He spent years and years at NASA, and since the Air Force
15 and a lot of the people at the Pentagon worked with NASA, many there knew about him. I knew
16 he had a good reputation, and then, that he returned to M.I.T. I knew him slightly, and this is sort
17 of an interesting coincidence. When he went back to M.I.T., he bought a house, and the reason this
18 particular house was available was that the professor who had owned it took an assignment with
19 the Foreign Service and went to India for a couple of years. So Bob Seamans bought this
20 professor's house. Then, when Bob came back to the Washington area, I'll say he bought a house
21 in Washington. The person from whom Bob had bought the house in Massachusetts finished his
22 tour in India, and came back to Cambridge looking for a house at just the time I told Bob I would
23 come to Washington to work for him. So the returning professor bought my house. He moved out

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1 of a house that Bob had bought and moved into a house that I sold him because I was coming to
2 Washington to work with Bob. That is not important, but it is sort of an interesting coincidence.

3 Although I did not know Bob terribly well, I respected him for what I did know. He is just
4 a terribly likable guy. He looks like a person you would like to work with.

5 INTERVIEWER: I think you earlier described how you got to the Secretary's office with
6 Bob Seamans.

7 DR. McLUCAS: Yes.

8 INTERVIEWER: That's where I got this question. I would like you to expound about the
9 division of labor between the Secretary and Under Secretary of the Air Force. Can you describe
10 how Bob Seamans envisioned the division of labor between the Secretary and the Under Secretary?

11 DR. McLUCAS: Well, it's pretty much the way your question implies. There is a natural
12 division between his background and mine. He felt that the most important thing that the Air Force
13 had to do at that stage was to develop some new fighter planes. I shouldn't say fighter planes, I
14 should say new airplanes. It was a sort of across the board need for new aircraft. Since he was an
15 aeronautical engineer and had the right background for most of the work of aircraft development,
16 it made good sense for him to assume that task. Since a lot of auxiliary things like satellites,
17 communications systems, intelligence collecting systems and so forth had to be done, and I had an
18 electronics background, it made sense for me to do that. So the assignment of duties was a rather
19 natural process.

20 INTERVIEWER: Were you aware that previous Secretaries had distributed and divided
21 tasks in the manner which you and Bob Seamans did? Were there any examples or past precedents
22 that both of you turned to?

23 DR. McLUCAS: Well, a quick answer is no. I don't think there was any previous experience

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1 along those lines.

2 INTERVIEWER: That's why I asked whether Joseph Charyk gave you any advice as to
3 what to expect, based on his experience as Under Secretary of the Air Force.

4 DR. McLUCAS: Joe Charyk was sort of a special case. In the first place, he was hired as
5 chief scientist and served thereafter. I'm trying to think whether Jim Douglas was in office at the
6 time. I think he was. In any case . . . (Mrs McLucas entered the room offering coffee)
7 I was trying to think of how this situation existed just before — let's see Harold Brown followed
8 Gene Zuckert — it was Jim Douglas I think.

9 INTERVIEWER: No, it was Dudley Sharp.

10 DR. McLUCAS: Oh, was Dudley in there?

11 INTERVIEWER: He was in there a year, and then Douglas, and then Quarles, and then
12 Talbot, — that's going backward in time.

13 DR. McLUCAS: Right. What I was trying to get to was if you had a bunch of lawyers in
14 there, they would be making decisions entirely differently. In our situation, with Bob Seamans and
15 me, you had two guys with technical backgrounds. I believe Harold Brown had an under secretary
16 that, as far as I know, didn't have anything to do with technology. A man by the name of
17 Townsend.

18 INTERVIEWER: Townsend Hoopes (Under Secretary of the Air Force October 2, 1967 to
19 February 3, 1969)?

20 DR. McLUCAS: Townsend Hoopes, sort of a policy type. I don't think Harold gave him
21 any technical assignments. He used his assistant secretary Al Flax (Assistant Secretary [Research
22 and Development] July 8, 1963 to March 15, 1969) as his technical right arm.

23 INTERVIEWER: You just pointed out something to me that I noticed when I was doing

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1 the book on the OSAF. In recent years, from the '60s on, it seems that more and more Air Force
2 Secretaries were technically oriented people. Is that good or bad? I think the only aberration in the
3 sequence is Vern Orr, Reagan's political appointee.

4 DR. McLUCAS: Yes he was political, a totally political appointee.

5 INTERVIEWER: Was that good or bad? You had Hans Mark in the '70s, yourself, Seamans
6 and Brown, and after that you get Aldridge, not only a businessman but a scientist too, and then
7 Rice, followed by Shelia Widnell a physicist.

8 DR. McLUCAS: Right.

9 INTERVIEWER: I just wondered . . .

10 DR. McLUCAS: Well, I think there is a recognition that if you want to know anything
11 about the substance of what is going on in the Air Force, you need to have some technical
12 background. It's not just a management job. Vern Orr's main claim to fame, as far as I am
13 concerned, was that he had run something and run it successfully. Vern Orr, by the way, called me
14 when he became secretary to ask me whether he should hire Pete Aldridge. He wanted to know
15 what I thought about Pete. Is he qualified? And I said, yes, he's qualified. I could think of people
16 more qualified, but that's not the issue. The issue is, will he be able to do the job, and the answer
17 is yes. Well, I turned out to be right. I thought Pete did very well and was a good advisor to Vern
18 Orr.

19 Anyway, if you trace back before then, the technical orientation question doesn't fit as well.
20 You find yourself with Townsend Hoopes, for example, and no way in hell was Bob Seamans going
21 to make him a deputy in the same sense. So the example becomes is Al Flax and Harold Brown
22 working closely together on technical issues. That kind of flexibility has advantages because you
23 can use the Under Secretary as the key technical advisor, or you can use the assistant secretary,

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1 depending on the technical background of the specific person in each position. Sometimes one
2 operational style makes more sense than the other.

3 INTERVIEWER: You need a balance here somehow?

4 DR. McLUCAS: Well, I'm not dedicated to the idea that these jobs should be filled by
5 people with technical backgrounds, but I am dedicated to the idea that if you don't fill those jobs
6 with technical people, you have got to have someone who is smart enough to know when he doesn't
7 know anything and has to get the right advisors. I think Harold Brown was not as good a secretary
8 as he should have been because he didn't have any, shall I say, management experience. It's hard
9 to make that statement without saying more about it because he did have management experience.
10 He had run the Livermore Laboratories, which certainly requires management, but it's more like
11 the management of a faculty or something. It's not management in the sense of running a company
12 and making business decisions, bottom-line oriented decisions. Certainly that could be overplayed
13 to say that a good business manager like Vern Orr is going to do a better job than Harold Brown
14 who knows his technology from the bottom up. I don't think you can really say which one can do
15 a better job until you look at some of the things they are faced with and try to see how they dealt
16 with them. {break for the lawn sprinkler man}

17 INTERVIEWER: I believe we were talking about managing the Air Force?

18 DR. McLUCAS: Yes. Talking about the best way to manage the Air Force. Using technical
19 people or general manager types, I guess my view was that — by the way, do I get a chance to edit
20 this before you use it?

21 INTERVIEWER: Absolutely.

22 DR. McLUCAS: I want to say something critical here of Harold Brown, but first of all, I
23 consider him a good friend, and I wouldn't say anything mean about him. Second, he is very smart,

1 intelligent, willing to learn, and so forth, and he has a lot of good things going for him, but I don't
2 think he was the world's greatest manager. As I was saying when we stopped, I didn't think he had
3 the management background that would serve him in good stead in this Air Force job in terms of
4 engaging in multi-billion dollar procurements. And I thought some of his decisions were not that
5 great. For example, the F-111 and the C-5, the contracts were not very good. They just were not
6 very good. On the C-5, we had a fixed price contract to build airplanes which — it's a silly
7 statement, but I will make it anyway—building airplanes that we had never built before. These huge
8 airplanes were stressing the materials at much higher levels than they had ever been stressed before.
9 Why did they think they could get away with that? Well, they just sort of talked themselves into
10 it, and so as a result we ended up having to put new wings on the C-5. The wings just broke off.
11 They couldn't take it. You would think that an engineer would know what kind of stresses a wing
12 could take and not take.

13 INTERVIEWER: Were the contracts not written properly?

14 DR. McLUCAS: No, the contracts started out okay, but then — let me take that back. They
15 did not start out okay. They started out with this in mind: If a contractor is willing to sign a
16 contract on a fixed price basis to deliver the goods described therein, it is up to him to find a way
17 to fix the item if the contractor gets into trouble. It's not up to us.

18 So sure enough the contractors got into trouble, and they found that the airplane was coming
19 in overweight. The people administering the contract said, well, you know, you signed the contract.
20 You've got to take the weight out. It's up to you to figure out how to do it. The way the contractors
21 chose to take it out was to go in with milling machines and chemicals and whatnot and make the
22 metal thinner so it would weigh less, but something goes with that. The consequence is raised
23 stresses in the structures. So there they were with an airplane that was overstressed coming in

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1 overweight.

2 Boeing had the same problem. They were building the civil equivalent of the C-5. They
3 called it the 747. They got into the same problem. It was overweight. So what did they do about
4 it? They went to Pratt & Whitney and said, this airplane is going to weigh more than we told you
5 and you have got to give us more thrust. So the engines were retooled and delivered more thrust.
6 Their solution to it was more power. In the case of Lockheed the solution was to skinny down the
7 wings. So when I became secretary, I had to cough up a billion dollars to buy a new set of wings.
8 I think a good manager would have known that, and wouldn't have put us in that bind. But it was
9 another one of McNamara's ideas. We could no longer afford the prototype airplane. You know,
10 you design on a computer, send the computers to the shop, build an airplane, and start flying. It
11 didn't work. We weren't that smart. So when Bob Seamans and I came along, we did the
12 prototyping and we did the testing, and finally, we went into production. It took longer, but we
13 ended up with good airplanes, and they didn't have wings breaking off.

14 INTERVIEWER: It's jumping ahead a little bit, but what about the C-14 and C-15? Was
15 that during your tenure as Air Secretary?

16 DR. McLUCAS: Yes, yes. And it went very well.

17 INTERVIEWER: Yes — you had two prototypes.

18 DR. McLUCAS: We couldn't do a follow-on. Couldn't get the appropriate support to follow
19 it through. Now the C-17 is being built to fill that need for tactical airlift.

20 INTERVIEWER: And as I recall the YC-14 and YC-15 was a successful prototyping effort
21 which used a lot of off-the-shelf equipment.

22 DR. McLUCAS: Yes it was. Let me quickly answer the question here of. Did Joe Charyk
23 ever inform you as to what to expect as Under Secretary? The answer is no. He and I never had

1 this discussion. This is not an important answer, but that's the way it was.

2 INTERVIEWER: I have asked that question of other Air Force Secretaries. I asked Stuart
3 Symington, did Robert Lovett ever tell you what to expect?

4 DR. McLUCAS: Good question. The quick answer is no.

5 INTERVIEWER: Next question here on Ernest Fitzgerald, do you remember him?

6 DR. McLUCAS: Yes.

7 INTERVIEWER: What can you recall about his testimony about cost overruns and
8 excessive costs on various weapons systems? This is about the 1969 period.

9 DR. McLUCAS: First of all, I don't recall it as well as I would like, but let me refer to the
10 question. (Dr. and Mrs McLucas talk about the sprinkler man) In the case of Ernie, I claimed it was
11 Harold Brown's problem, not Bob Seamans' problem, and I don't know how it came to be our
12 problem. I claim that if Bob Seamans had played it a little differently, he could have avoided most
13 of the problems. Now this is my memory of the case. During Harold Brown's tenure, Ernie blew
14 the whistle. Why it was necessary to blow the whistle, I don't know. My version of history will
15 probably differ greatly from the real one, but my version was that people like Pete Crow, the
16 Comptroller, were testifying before Congress about budget needs of the Air Force, and somehow
17 had not got around to saying something about the C-5. Many people knew the C-5 would need
18 more money. More money than had been asked for. So Ernie figured himself to fill that gap, and
19 he said, oh, by the way, the Air Force needs more money. And he was, you might say, out of
20 channels in revealing this information at a time when the Air Force thought it was smarter just to
21 save that problem and take it up later. Obviously, they weren't going to invent the money, and the
22 Air Force knew more money was needed. So the Air Force was accused of engaging in
23 skullduggery for leading the Congress to think that the Air Force could build the C-5 for the money

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1 that was initially appropriated. The Air Force knew that the program would need additional funding.
2 This is my version. I believe this was not a major crime because it's a question of timing.
3 Obviously, as I say, you are not going to invent the money. You have got to go to the Hill to get
4 it. The question is, when do you go and how do you express your problem. Your problem is the
5 need for more money. The reason you need more money is that the damn thing cost more than you
6 thought it would. In my mind, it's all sort of straightforward. Usually Congress comes up with the
7 extra money, or they don't. But you certainly can't solve the problem by refusing to talk to these
8 people on the Hill about it. Ernie is accusing the Air Force of refusing to talk to the people on the
9 Hill. In my view, the Air Force was planning to present the problem to Congress at their next
10 presentation where the Air Force would simply ask for additional funding. Because of the way Ernie
11 presented it, the Air Force ends up as the bad guy who refused to ask for the money and is going
12 to have to engage in a continuing stream of lies to keep the program going.

13 Anyway, this all happened on Harold Brown's watch. Then, Bob Seamans came in as
14 Secretary of the Air Force, and I, as Under Secretary, and the issue reappeared. By this time, Ernie
15 Fitzgerald is known as the whistleblower, the bad guy to the people who think that loyalty is
16 everything, and the hero to those who think that revealing the deep, dark skullduggery of the Air
17 Force is everything. These are the roots of the controversy. My attitude was, it's not our problem.
18 It happened before we came. We don't know anything about it. Let it play itself out. Then, Bob
19 Seamans took the attitude that Ernie was a (S.O.B.), and saying mean things about the Air Force,
20 and assumed a position of I hate people who say mean things about the Air Force. He somehow
21 got himself emotionally involved in this. And all the time I'm saying, count me out. I don't want
22 any part of this.

23 INTERVIEWER: Let it blow over?

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1 DR. McLUCAS: Yes. By the way, I sent a copy of my notes to Bob a few days ago,
2 Saturday to be exact, and I said, you don't remember some of these things, but I would appreciate
3 your marking up my notes. And I asked him if you had talked to him. He said no, not yet.

4 INTERVIEWER: No. He has been talked to before, earlier. I may get around to it.

5 DR. McLUCAS: That was quite a story about his notes — records getting tossed out.

6 INTERVIEWER: Yes.

7 DR. McLUCAS: I guess you heard it?

8 INTERVIEWER: The way I heard it was that his notes were sitting at the loading dock at
9 the Forrestal building waiting to be shipped to our office when the trash collectors picked them up
10 instead. Their disappearance is a major loss for anyone doing research of the OSAF.

11 DR. McLUCAS: Yes it is.

12 INTERVIEWER: Terrible.

13 DR. McLUCAS: I think Bob Ginsberg was in charge of the history program at the time.

14 INTERVIEWER: General Ginsberg. Yes.

15 DR. McLUCAS: At the time I heard this, he said something like, I hate to tell you this, but
16 Bob Seaman's material was all tossed out.

17 INTERVIEWER: While we are on that question, did you ever turn in records besides the
18 ones that went from your office over to the archives?

19 DR. McLUCAS: Did I?

20 INTERVIEWER: Keep records or something like that?

21 DR. McLUCAS: Well, I kept a lot of paper. At one time, and I can't remember when it
22 was, the Air Force sent a team out here and went through my papers and took some stuff and
23 photographed it, and so forth.

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1 INTERVIEWER: It is probably at Maxwell?

2 DR. McLUCAS: Probably.

3 INTERVIEWER: The next question I have is could you elaborate the difference between
4 McNamara's and Laird's tenures as Secretaries of Defense? I was impressed with what you said
5 about Laird holding meetings that included the service secretaries.

6 DR. McLUCAS: I was going to say the main difference was one of attitude. Whether Mel
7 really believed in what we were doing or not, he said all the right things to keep people working
8 together. He said, the military has lots of experience . . .

9

(END TAPE 1, SIDE 2)

(BEGIN TAPE 2, SIDE 1)

1
2 DR. McLUCAS: Laird's approach was that military people have all kinds of valuable
3 experience. It would be a great mistake to ignore that. They have great responsibilities and are role
4 models for their people, and we need to play into that and not fight it. At the same time we have
5 to keep a strong hand on what they are up to, and that means we have to work through the service
6 secretaries, have to build a good rapport, and have to include these guys in. We have to make them
7 feel good, make them feel important, and make them part of the team, and in that way build their
8 loyalty so they'll be in a good position to go to their service a secretary's office and make this
9 whole thing work more smoothly. And he was just a good team player. He knew how to motivate
10 people and how to make them feel good, and he honestly liked working with them.

11 McNamara sat like a kind of king on his throne. He had the attitude that peons don't know
12 anything, we don't have to pay any attention to them. I mean, everything was different. And in one
13 case you felt like a member of the team, and in the other, you felt that if you did anything wrong
14 some grand chorus director would come down and shoot you. If you have any good ideas, you had
15 better keep them to yourself, and so forth. There is a funny story that I remember about McNamara.
16 Someone said, and I heard this many times, that if you don't want a decision, don't discuss a
17 problem with McNamara. You could never sit and talk and think about an issue and discuss the
18 pros and cons and say to McNamara, something like—I'm still agonizing over what to do about this.
19 You could never go into his office and make any such statement because he is going to make a
20 decision right on the spot. If you are not ready for a decision, if you are afraid he might make the
21 wrong decision, you better stay out. With Laird, you could have a discussion, and you had a feeling
22 you could present whatever case you had, and if you made good sense, fine. If you didn't, you had
23 better go back and do more thinking, but he was just a terrific team player.

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1 INTERVIEWER: Much more personable.

2 DR. McLUCAS: Yes. He was very personable and he got his kicks — you know, he liked
3 to put his arm around you and say John, "you know, we'll solve this one way or another. We'll
4 work together. We'll make it work." It was that kind of attitude. So in that sense, he was a hero to
5 me. He knew how to get people to work together, and it wasn't through arrogance, which some
6 people seem to think is okay.

7 I have worked for several people who were just very arrogant. And that's a way to motivate
8 people. You know, scare the hell out of people. If you think that is the way you are going to get
9 good performance, okay, but the Mel Laird approach is my kind of approach. It works, and when
10 the day is done, you can sit back and say, well, we got a few good things done. I got a note from
11 Mel just a few days ago when David Packard died. I sent him a note saying that I was writing a
12 letter to MacNeil-Lehrer. I don't know if you watch that program.

13 INTERVIEWER: Once in a while.

14 DR. McLUCAS: Anyway, I watch them pretty faithfully, and they did a tribute to Dave
15 Packard. Packard died on the same date that Ed Muskie died. And, of course, Ed Muskie was a big
16 figure in Washington, and MacNeil-Lehrer, like all other news media, tends to be biased in favor
17 of the Democrats. So this big Democrat dies. They get some of his close friends in and talk about
18 what a great person Ed Muskie was. How warm, human, and wonderful he was, and so forth. Then,
19 they come to Dave Packard. They've got a guy who doesn't even know Dave Packard and was two
20 or three generations younger who says, hey, Dave Packard, I don't know him but he was a terrific
21 guy, and he had something to do with starting the silicon valley. Well, that was all true and some
22 people I talked to said hey, that was a very nice tribute. It was a hell of a tribute. The contrast
23 really hit me between the eyes. Ed Muskie dies, and they get his closest friends around and engage

1 in a love feast. Dave Packard dies, and they call on someone who never met him, and that is
2 supposed to be equitable treatment. Why didn't they do the same thing? Call up two or three of
3 Dave's friends.

4 INTERVIEWER: Right, do some basic research and find out who some of his friends
5 were.

6 DR. McLUCAS: I sent a letter to MacNeil-Lehrer and asked, Why didn't you contact Mel
7 Laird for his comments? I sent Mel Laird a copy of my letter. He sent me a copy of what he said
8 when he went to the Hill [Congress] and had a tribute to Dave entered in the *Congressional Record*.
9 There were also tributes from John Chaffee, who served under Laird as a member of the Laird-
10 Packard team, and from Senator John Warner. These two senators stood up and made a eulogy-type
11 statement about Dave Packard. Mel Laird made his statement too. He said that Dave Packard was
12 a man he really loved. So the tribute by the three guys was put in the *Congressional Record*. I don't
13 know what happened on the Congressional floor as to whether they were all there together. They
14 probably were. In any case, their comments were put in the record, and Mel was saying to me,
15 "You see what I did. Okay, now you do your thing. You do your thing and get McNeil Leherer to
16 shape up." I didn't know if I could get McNeil-Leherer to shape up or not, but it just illustrates a
17 point. After I sent my letter to Jim Lehrer complaining about the unequal treatment of Messrs.
18 Muskie and Packard on his program, I got a letter from Jim saying "You're right. I blew it!" The
19 Laird-Packard team has had several reunions over the years. Bill Perry, the present Secretary of
20 Defense, as a matter of fact, had a tribute in that same *Congressional Record*. He stated that the
21 Laird-Packard team was known as the smoothest working team in a long time. And Bill Perry told
22 me in separate meetings that he would love to have as good a team as the Laird-Packard one had
23 been.

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1 INTERVIEWER: Did Perry work for him?

2 DR. McLUCAS: No, he was a Democrat so his tenure started after Laird-Packard. Yet he
3 did work very closely with David Packard. Perry was David's Deputy on the Packard Commission
4 which dealt with procurement. It had a long name, like The President's Commission on
5 Procurement Reform. It started under Caspar Weinberger's tenure as Secretary of Defense. Packard
6 chaired the Commission with Bill Perry as the Vice Chair. So Bill Perry had the same attitude about
7 Dave that I did.

8 INTERVIEWER: You mentioned in your notes that you had hired Bill Perry?

9 DR. McLUCAS: Yes. I was his first boss.

10 INTERVIEWER: That was in '54 I think?

11 DR. McLUCAS: Yes. I know I never made a big thing out of it that but once in about 1977
12 when Harold Brown came in as President Carter's Secretary of Defense and hired Perry as the
13 DDR&E. Every six months the Old Crows (which was the group that had specialized in electronic
14 countermeasures during World War II) held a meeting. Some people connect the group it with
15 ELINT. The group still goes on, even though I have not been in touch with them for 15 or 20
16 years. I assume that the organization still meets. But in 1977 the Old Crows were having a meeting
17 and they asked Bill Perry to speak. Bill Perry came from that electronic counter-measures
18 background so it was logical that the Old Crows would want him to speak. "One of ours has made
19 it," was the message they wanted to send. They asked me to introduce him, so I went over to this
20 luncheon and at the appropriate time I got up to introduce him. And after I finished presenting his
21 background and all the things he had done, I couldn't avoid adding, "incidentally I was his first
22 boss." After the introduction I sat down and Bill got up and said, "John, thank you for those kind
23 remarks. One thing that John didn't tell you was when he hired me into that first job, he only paid

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1 me \$2.50 an hour." The group got a big laugh out of that. And there was a later version of the
2 story, and I can't remember whether I invented it later or whether I said it at the lunch, but I said,
3 "Yeah, but I had only been hired at \$2 an hour myself. So by paying him \$2.50 I was giving him
4 a step up."

5 INTERVIEWER: That's right. Minimum wage wasn't even a \$1.00 at the time. You had
6 mentioned these weekly meetings that you held.

7 DR. McLUCAS: Yes.

8 INTERVIEWER: You felt that because of these meetings you were more a part of the
9 decision-making process, right?

10 DR. McLUCAS: Yes.

11 INTERVIEWER: How about Schlesinger's attitude about holding such weekly meetings?
12 Could you elaborate a little bit more on that. I believe you said you had gone to him one time and
13 asked him to continue it.

14 DR. McLUCAS: Yes, I did. He said he couldn't imagine any reasons why such meetings
15 would be productive. He asked, "What would we talk about?" I thought that was a silly question
16 in itself. If you don't have things to talk about, why are you in the positions you are in? There are
17 common problems among the services that come up. Let's say, there is an issue between the
18 Secretary of Defense and the Secretary of the Army, so why shouldn't the other service secretaries
19 be included? It seemed logical that if all four of the guys (the Secretary of Defense and the three
20 service secretaries) sat down together they'd come up with some interesting things to say to each
21 other. And let's say you had procurement problems or you had gotten out on some limb for buying
22 hardware on a fixed-price contract, and now you are beginning to wonder if fixed-price contracts
23 are a good idea. Certainly that would be a problem of common interest across all the services. And

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1 there were a million problems that we could think of that would make sense to discuss together.
2 Yet Schlessinger said, "Well, what would I want to talk to those guys about?" What he was really
3 saying was that he thought these people had been picked for somewhat strange reasons, and the idea
4 that we all had common problems and thus common interests in approaching these issues was sort
5 of a funny idea. I believe he had this attitude because he had never run anything. He had these
6 various appointed jobs. To the extent that you could run things by authority, Schlessinger was a
7 good manager like Brown. There was another line of thinking that maintained that you really
8 needed to work with people. This was the Dave Packard method — remember, his technique was
9 what has been called "management by walking around." He walked around plants and talked to the
10 people, and they all addressed him as "Hi, David." So that is one way to keep close to the people
11 and know what's going on. Another way is, is the Brown/Schlesinger technique, which is to sit up
12 there at the top and pontificate, spot problems, and direct your attention to those problems. The
13 Laird approach was, we are all in this together. Let's work it out.

14 INTERVIEWER: Did David Packard go around shaking hands like that and talk to people?

15 DR. McLUCAS: Not in the Pentagon, but in his own company he did. In the Pentagon he
16 did what almost everyone does. He asked people to meet in his office to talk about problems. When
17 Mel Laird was away, David Packard would chair those meetings with the service secretaries. And
18 if a secretary was away, his Under Secretary would be there in his place. It was through that
19 mechanism we all got exposed to each other.

20 INTERVIEWER: Now, here in your written comments is a line that I think is a very
21 quotable phrase. I really think it is a good one. You mentioned you took over as Air Force
22 Secretary in your own right just as the war ended, so my tour in the top job consisted of our
23 attempts to salvage an Air Force from the wreckage caused by loss of equipment, of morale, and

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1 of the feeling that the Air Force had always held that if there was a job to be done, we could do
2 it. And this is quotable. It certainly was a difficult time in '73.

3 DR. McLUCAS: It was.

4 INTERVIEWER: How did you turn back morale?

5 DR. McLUCAS: I'm not sure I did. I certainly tried. There was a question of how to
6 manage if you are not going to have the major buys that you once had. In other words, your budget
7 is going to be tight. If you are going to have a surplus of pilots because you scaled everything back,
8 do you stop buying airplanes, do you stop training people? Well, in my view, the answer is no. Our
9 solution was to scale to fit our resources. In other words, you wouldn't turn things off. You would
10 turn them down. If you bought something, you'd try to buy the best, and if you developed
11 something, you'd try to develop the best. You'd try to focus on the positive as opposed to saying,
12 "Oh, holy hell, we lost that war. We're the bad guys. Everything's going to hell. Too bad." I tried
13 to maintain an upbeat atmosphere. I'm not saying I did. I don't even know, but my attitude was that
14 we'd better salvage the best we can out of this.

15 INTERVIEWER: How about the troops themselves, did you initiate any personnel programs
16 that involved them?

17 DR. McLUCAS: Well, I'm getting speechless — you know if you haven't been thinking
18 about these issues, it's hard to come out with specifics.

19 INTERVIEWER: I could stop here. I've been here almost three hours. We can stop here and
20 pick up that question the next time.

21 DR. McLUCAS: Okay, fine.

22 INTERVIEWER: You keep those questions.

23

(END)

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May 7, 1996

PLACE Dr. McLucas' home

SECOND SESSION

INTERVIEWER: At the last session we talked about when you became Secretary in your own right. We had started to talk about your job as Air Force Secretary and of what it was. You said in your letter to me that it consisted of your attempts to salvage an Air Force from the wreckage caused by the loss of equipment, of morale, and the feeling that the Air Force had always been there and always had done its job.

Let me ask you the question, what things did you do to build up morale? Were there any specific methods that you used that you can recall?

DR. McLUCAS: It will take me a while to get back in this mood, I guess.

INTERVIEWER: Okay.

DR. McLUCAS: I was trying to think of some of the things that were going on. Did I give you a copy of "Requiem for a Bureaucrat"?

INTERVIEWER: No.

DR. McLUCAS: I didn't?

INTERVIEWER: You mean the . . .

DR. McLUCAS: The article that appeared in Aviation Week [April 25, 1977 issue].

INTERVIEWER: Yes, I got that. I thought it was a book you were referring to. Is this the article that dealt with when you left office?

1 DR. McLUCAS: Yes.

2 INTERVIEWER: Yes, I got that.

3 DR. McLUCAS: I was closer to the event at the time of the article, and I remember saying
4 something that although we wouldn't have much equipment, it would be best. We started new
5 developments like the F-16. I shouldn't say started, but rather completed. I decided to procure the
6 F-16s. I had good cooperation from everybody. I think that airplane's history has shown that it is
7 pretty good airplane. Would you agree with that?

8 INTERVIEWER: Yes. I would.

9 DR. McLUCAS: It has performed very well for us and for some of our allies. So, in my
10 mind, the one thing that was very important was to keep the front end of the work going, mainly
11 on advanced systems. We shouldn't totally stop anything. Take pilot training, for example. Instead
12 of saying we've got too many pilots, and let's not train any more, we should just scale it back so
13 to insure that the school and the instructors and so forth were still there doing their jobs, even
14 though you could have argued, I guess, to close them all down. You could argue further that you
15 would reopen the schools in 5 years. We tried to keep continuity and keep alive the basis and
16 activity of these various functions. Another thing I did a lot of was to speak at various Air Force
17 installations. I seemed to be always running here and there to give morale building speeches.

18 INTERVIEWER: To Air Force people?

19 DR. McLUCAS: Yes. Wherever I got an invitation. I gave speeches at the Air Force
20 Association, at bases, and to various civic groups.

21 INTERVIEWER: Can you recall getting involved in any personnel programs such as
22 women's rights — expanding the role of women in the Air Force?

23 DR. McLUCAS: Well, that was a time when there was quite a bit of interest in such things.

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1 I don't want to say that these were totally new concepts, but I think quite a buildup of activity was
2 occurring along those lines about that time. We had the Committee on Excellence at the academies.
3 Is that referred to in any of the stuff that you've got?

4 INTERVIEWER: No.

5 DR. McLUCAS: There was a committee which was chaired by Bill Clemens which I
6 thought was one of the better things he was associated with. He was not my favorite person, but
7 anyway, he was chairman of this committee. It was called the Committee on Excellence and it
8 looked at the academy programs in the different services and the other service postgraduate schools
9 such as those at Monterey and the Air University. We looked at a number of those things, and made
10 repeated visits to the academies to determine whether the cadets really got a good education or not.
11 Committee members looked at the merits and demerits of having an all military faculty or an all
12 civilian faculty, or whatever. The Navy tended to be all civilian, while the Air Force and Army
13 tended to be all military. So, we were trying to get a more balanced picture in both cases. We
14 started some sort of visiting professorship arrangement at the Air Force Academy in an attempt to
15 deal with this issue. A lot of people didn't think it was an issue. In any case, we thought our visits
16 would probably do a lot to encourage people to focus on quality and so forth, aside from the
17 specifics that might come out of our work. So, as I say, we made repeated visits to different places,
18 such as Newport, Rhode Island, and so on. At the same time, we were talking about getting women
19 into various jobs and letting them go to the academies. That was a very controversial issue, and we
20 had to deal with people who believed that you can't do it, and with those who believed that you had
21 to do it. We were trying to find a gradual way to make it happen. And I think it turned out not too
22 badly. I guess it's the kind of issue that will never be really settled. In other words, it will continue
23 to be controversial to some people. In the case of the Air Force, there was a question of whether

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1 women should be pilots. So one of the things that I instituted was the pilot-training program for
2 women. I'm not sure enough on the details to say specifically how we pulled it off because it
3 happened at the end of my term. But, it was something that I decided we had to do. I got it started
4 while I was still there, but the actual implementation took place after I left. I kept in touch a little
5 bit with some of the women who were involved in that first round. An interesting thing to me was
6 that so many people who were against it initially found that, when it actually happened, it turned
7 out to be not that terrible. I remember several Air Force generals writing to me about how I
8 screwed up by putting women in cockpits. And I remember writing back in some cases where I
9 guess I had sort of a standard reply which was that I don't see how it could be terribly earthshaking
10 to have a woman flying a C-6.

11 INTERVIEWER: C-130?

12 DR. McLUCAS: Well, the C-130 or a small utility airplane. I think one is called a C-6,
13 but anyway, the smaller airplanes. You start somewhere, and you work up. Women are now flying
14 the C-141. Soon, we will have women instructors in the fighter training. I guess I'm sort of torn
15 by this whole thing myself. On the one hand, you want to make opportunity available, and on the
16 other hand, you know it's going to be controversial. You know that some people are going to resent
17 it as they did in the case of the woman who got killed in the F-14. Opponents maintained she was
18 just pushed above her pay grade and put in the position where she couldn't handle it. You are going
19 to get some of that.

20 How far should you go? That was always an issue, and I guess it will continue to be so.
21 I remember several Air Force generals who were against women pilots at the beginning who came
22 back to me later and said privately, "I thought you had made a mistake, but in retrospect, I think
23 you did the right thing."

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1 single-engine plane versus a two-engine model, and, therefore, a bit cheaper on the unit basis. A
2 fighter typically has one engine. You may decide to go to twin engines because if you lose one
3 engine in a single engine aircraft, you're dead. But in choosing the F-16 over the F-17, we took all
4 that into account. Now, twenty years later, it would be interesting to see how those statistics that
5 we projected actually turned out. I don't really know. It would probably make an interesting
6 checkpoint. The F-17 became the Navy's F/A-18, so we have experience on the single engine F-16
7 and the twin engine F/A-18.

8 We were saying a twin-engine airplane is a little less likely to be lost when you have one
9 engine working, but not two. But, of course, it costs more. So, you can ask, is it cost effective or
10 not? And then if you trace that too far, you get into the issue of how much is a pilot worth, and
11 should you spend all the money you have to try to maximize the chances of the pilot's survival.
12 That's one with no answer, of course.

13 INTERVIEWER: Then you get into the issue of better ejection seats.

14 DR. McLUCAS: Right. But in any case, we did these various analyses that showed the
15 F-16 was better. Then we held the flyoffs which studied among other things the data on turn rates
16 etc. The F-16 proved to be more agile.

17 INTERVIEWER: What other prototypes did you get involved with? Did you get involved
18 with the A-10?

19 DR. McLUCAS: That happened when Bob Seamans was in office.

20 INTERVIEWER: Yes.

21 DR. McLUCAS: He and I had our division of duties and he was the lead officer on the
22 airplane. I was involved in the sense that I filled in for him when other things were happening. He
23 took the big decisions. Incidentally, I don't know if we talked about this the last time or not. I think

1 we probably did, but there seemed to be a difference between the Air Force and the Navy
2 specifically, and I think also with the Army. The difference concerned which decisions a secretary
3 ought to be involved in. I remember that over the years I heard many Navy stories about how the
4 admirals try to keep the Navy Secretary so busy launching ships or involved in some other activities
5 like giving speeches so that he doesn't get too deeply involved in the substance of his work, which
6 would complicate life because he would have to take positions and so forth. The Air Force
7 Secretary fairly commonly was pretty deeply involved in playing a decision-making role in weapons
8 systems choices, buys, types of contracts, and things of that sort. There are two schools of thought
9 on that. One is that since the secretary is just as likely to be a total novice on material issues, it is
10 just as well that he not get too actively involved because he is probably in over his head. And the
11 other school argues that that is what the role of the Secretary is. He is supposed to recruit, train,
12 and equip the force. So you can make a good argument either way. But in the Air Force it was
13 more likely that the argument would come out that the Secretary should be deeply involved in this
14 whole process rather than his delegating everything. Now, I had a general counsel who used to say,
15 "You know, you've got delegation arrangements made so that you can actually delegate everything."
16 He said, "The only thing the Secretary really has to do is to accept gifts." He said, "There are no
17 regulations that deal with accepting gifts. Therefore, you have to deal with that personally."
18 Arrangements have been made for everything else. You can delegate anything you want to. We
19 didn't get that many gifts.

20 INTERVIEWER: No.

21 DR. McLUCAS: I remember some discussions with Air Force Chiefs about how involved
22 the Secretaries should be and to what extent they appreciated the Secretary's involvement, or if they
23 just tolerated it. Of course, each was a different case.

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1 INTERVIEWER: Doesn't your involvement depend somewhat on your area of expertise?

2 DR. McLUCAS: Well, yes.

3 INTERVIEWER: Or your area of interest?

4 DR. McLUCAS: That's right. Bob Seamans, the Secretary who preceded me, was an
5 aeronautical engineer. So he had quite a bit of expertise. He was also a very level-headed person,
6 a businessman you might say. So I thought he did a good job. Tom Reed succeeded me. He had
7 a little bit of time serving in the Air Force and served for only a few months, [January 2, 1976 to
8 April 5, 1977] [note also that James W. Plummer was Acting Secretary, November 24, 1975 to
9 January 1, 1976]. So I would say that my successor [Tom Reed] was sort of medium qualified.
10 Then, the guy who came in after that . . .

11 INTERVIEWER: Hans Mark?

12 DR. McLUCAS: No, John Stetson. I never got to know him. Then came Hans Mark. Hans
13 Mark was a technical man. He was more of a research type, not a businessman. He was also very
14 arrogant. [Note: Reed was succeeded by John C. Stetson April 6, 1977 to May 18, 1979.] But he,
15 Hans Mark knew enough about the job, and he had of course, served a term as Under Secretary [
16 July 22, 1977 to May 18, 1979] before he moved up. I should say, half a term. That is good
17 grounding in itself to be secretary. He certainly had the technical qualifications to make any
18 decisions. If he made any errors they would have been more ones of judgment than anything else.
19 I guess that doesn't necessarily go with whether you are a lawyer or an engineer.

20 INTERVIEWER: What you just mentioned sort of mirrored your situation. You were with
21 the DDR&E before you became the Under Secretary for four years and then the Secretary.

22 DR. McLUCAS: Yes, both.

23 INTERVIEWER: Did you feel that that was helpful?

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1 DR. McLUCAS: Oh, yes. I had led an Air Force life. When I got out of the Navy in World
2 War II, the first job I took was doing developmental work on radar in an Air Force lab. I think it
3 was called the Army Air Forces. Then I went back to graduate school, and within a year I was
4 working on an Air Force contract from Wright Field. Then I worked my way up to run that
5 company. And from 1948 to 1962, a good portion of my work dealt with the Air Force. So for 14
6 years I worked as an Air Force contractor. I felt I knew something about the Air Force before
7 coming to DDR&E.

8 INTERVIEWER: You mentioned your experience in the Navy. When you were Secretary,
9 how was the interservice relationship between the Navy, Army and Air Force? Did your Navy
10 experience help you deal with this?

11 DR. McLUCAS: I guess it did in sort of a general way. I don't know any specifics though
12 other than that I could say to a Navy guy, "You know I was one of you in World War II, and I can
13 feel your pain." [laughter] But we had a good working relationship. I worked with John Warner. He
14 was Under Secretary when I was Under Secretary, and then he moved up to become Navy
15 Secretary, and I became Air Force Secretary. So I worked with him in both capacities. When
16 Warner left to head the Bicentennial Commission, Bill Middendorf took over, and I worked well
17 with him. So we had, I thought, very good working relations with the Navy.

18 On the Army side, we had Bo Calloway, a good friend, and I enjoyed working with him.
19 It wasn't as close a working relationship as I had with the Navy, I guess, because there weren't that
20 many issues. We had joint briefings. And, of course the Air Force was involved in buying airplanes
21 that had been invented by the Navy.

22 INTERVIEWER: Was that during the Vietnam War?

23 DR. McLUCAS: Yes, the F-4. It's a Navy creation, and we bought thousands of them, and

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1 then the A-7 was a Navy creation. And we bought hundreds if not thousands of them. So we had
2 kind of an interest there.

3 INTERVIEWER: And then you got the F-15 and F-16, which were not Navy creations,
4 right?

5 DR. McLUCAS: Right; they were two great airplanes in my estimation.

6 INTERVIEWER: You mentioned you hired Jim Plummer to do the work of the NRO
7 (National Reconnaissance Office).

8 DR. McLUCAS: Yes.

9 INTERVIEWER: When you did that, did you keep an interest in the NRO, and why wasn't
10 the NRO responsibility not shared with the other Service Under Secretaries? Was it assumed that
11 the Air Force would have the responsibility in space even at this time, even in the '60s, when it
12 started? Was the Air Force pretty much guaranteed the space mission at the time?

13 DR. McLUCAS: Well, in a general sense, it was. All the services are presumably interested
14 in the product. Intelligence is a likely example, and the communications that were generated. I
15 would think that you would have to say that the Air Force had sort of a lead role in space. It didn't
16 have an exclusive role. For example, the Navy was allowed to buy its own communications
17 satellites. The Navy had a UHF program for communicating with ships, and it bought several
18 generations of satellites for that purpose. The first it purchased was something called FLEETSAT.
19 I persuaded Admiral Zumwalt to let us do most of the procurement work on that system. We had
20 experience with the people in California who were working with the satellites. We had worked with
21 the suppliers, mainly Hughes and TRW. I persuaded Zumwalt that we should staff the project office
22 out there, and he should just have a few people for oversight rather than building a big staff of his
23 own. We worked on that basis. Unfortunately, the program got into some trouble, as most

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1 innovative programs do. Then there was the fingerpointing--you know, if we had done this
2 ourselves, we wouldn't have had these delays. This is what happens anytime you have a delay in
3 a program; people are going to find someone else to blame. I don't think the Air Force screwed up
4 anything on that program, but I think that we were no better than the Navy would have been at
5 solving some of the problems that came up. Everything eventually got resolved, but in the meantime
6 I had gone to COMSAT. It turned out that COMSAT was involved in supplying interim systems
7 while the FLEETSAT was running late. So we got quite a boost from supplying the Navy with
8 communications services on an interim basis.

9 INTERVIEWER: On COMSAT's own satellites?

10 DR. McLUCAS: Yes, that's right. We were putting up satellites for maritime
11 communications, but, by maritime, I mean civil. We rented some capacity to the Navy and managed
12 to get service to the Navy about two years ahead of FLEETSAT. So that got the Navy pregnant,
13 you might say, of buying services from COMSAT, and that program is still going on.

14 INTERVIEWER: Is it still?

15 DR. McLUCAS: Even though they formed their FLEETSAT and have produced successors
16 to FLEETSAT, they are still buying some service from COMSAT. And in some cases, on some of
17 those original satellites.

18 INTERVIEWER: On the original satellites?

19 DR. McLUCAS: Right.

20 INTERVIEWER: They are still up there?

21 DR. McLUCAS: We put them up there in '76, and they are still providing service. I mean,
22 it's amazing.

23 INTERVIEWER: Let me just project now into the future, do you think more and more

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1 contractors will be supplying the military with this type of service, like this satellite service?

2 DR. McLUCAS: Oh, I think so. It's probably a question of attitude on the part of the
3 services. Do they insist on having their own equipment, or is it that they just want a service. If they
4 just want a service, they can buy it, and that has certain advantages if you do the contracting
5 properly. For example, you can sign a contract that says I need service, or I need capacity in several
6 places in the sky, like over each of the two oceans. I will need capacities there at several
7 frequencies and so forth, at certain power levels, and as long as you supply that service, I will pay
8 for it. But if you lose a satellite and don't supply the service, I will not pay. If the Navy, let's say,
9 had bought the satellite, and it died, then they would have to go out and buy another one. Whereas,
10 if all they had done was contract for the service, and the contractor loses a satellite, the contractor
11 has got to put up another one to get any more money. So you can see that could be an advantage
12 if you write up the contract properly. And, as you know, Washington is full of contractors suing
13 the government for having poorly written contracts. There's confusion about what these contracts
14 really say. Let's see if that coffee is out there. [Break]

15 INTERVIEWER: One of the things that Cargill Hall wanted me to ask you was whether
16 you were responsible for announcing the existence of the defense weather satellite. I guess before
17 your announcement, it had been top secret or nobody recognized it. Do you recall announcing it,
18 and did you have any reluctance about doing that?

19 DR. McLUCAS: No, I didn't have any problems with it. There were many reasons why it
20 had been a secret, but the reasons had pretty much dissipated. We had phased out the war in
21 Vietnam. The data was very valuable, and it could be used if it were available for a lot of weather
22 research. The data was not being distributed, so I thought the best thing to do would be to
23 declassify it and start making it available. So, at the time, a man named Albert C. Hall was

1 Assistant Secretary of Defense for (Intelligence) (C3I). So I talked to him about it, he said, "I think
2 it's a good idea. Why don't we do it?" So I said, "Okay, I will." We made the decision to declassify
3 it, and then when the event came up-- it was a time in the Yom Kippur War, October '73--so, let's
4 say in September, I don't remember for a fact, but let's say it was in September, I decided to
5 declassify this information and I was taking steps to make it available when all of a sudden, in
6 October, this war started. I had made a practice of inviting certain reporters to lunch, so every few
7 months I would have four or five guys come over and have lunch with them for sort of a
8 background session. In this particular instance, the war broke out, and I had some of these guys on
9 the calendar, and we were going on with it. I happened to have some pictures from the Defense
10 Meteorological Satellite Program (DMSP) with me, and I showed them to these reporters. I said,
11 "Here's this weather data which has no military significance, theoretically. Yet, you can see, looking
12 at the Middle East, here are the oil fields and the Sinai Peninsula, and you can see the flares from
13 the refineries. You look at them one day and then you compare what you see with the picture from
14 the next day and you see that some of the flares are still there and some are gone. The refineries
15 have been knocked out. And I said, here's a picture taken with such poor quality as far as pictures
16 are concerned, that you would think it had no military significance, and yet you can get data from
17 it as to which refineries are working and which ones aren't." And they said, "That's terribly
18 interesting. How about giving me a copy." I said, "I'll have some copies made for you."

19 Later I was talking to Jerry W. Friedheim [Assistant Secretary of Defense (Public Affairs), April
20 13, 1973] in the Secretary of Defense's office, and I told him the story. He said, "You don't want
21 to give those guys those pictures". He said, "That's military -- that's hot inside information." Well,
22 I just arranged not to deliver them, and then a month or two later we released them.

23 INTERVIEWER: Then by releasing the pictures, you had to release the recognition, or

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1 rather the acknowledgement, of the satellite?

2 DR. McLUCAS: That's right. That was a great thing, satellites for research purposes. One
3 interesting thing about them is that they fly that polar orbit. You know, the weather pictures that
4 you see on TV at night are all taken from the equator so you don't see the poles. But those polar
5 satellites are looking down all the time, and a good fraction of the pictures show the aurora. So, if
6 it's winter in the northern hemisphere, you are looking at the aurora borealis, and if it's winter in
7 the southern hemisphere, you see the aurora australis. That's terribly interesting research data having
8 to do with our weather and so forth. If you are not flying a satellite, you get no conception of what
9 it's like because the aurora is there. I don't know what fraction of time, but, let's say, 50% of the
10 time. We think it is a very rare event to see the auroras it once in a while, but they are usually there
11 if you look at the poles. Additionally, the satellite moves around. It's over on this side of the pole,
12 and then it changes to the other side. This is just another example of a program that is too
13 classified because its data cannot be properly used.

14 INTERVIEWER: You're not getting the full service.

15 DR. McLUCAS: Yes.

16 INTERVIEWER: You mentioned that Phil Whittaker thought that you might be inserting
17 yourself between him and the secretary. I was wondering, do you mean the Secretary of Defense
18 when you were Secretary of the Air Force?

19 DR. McLUCAS: No, I meant when I was Under Secretary of the Air Force.

20 INTERVIEWER: And Whittaker was the . . .

21 DR. McLUCAS: You could say that Bob Seamans was his real boss, so why should he have
22 to go through me to deal with Bob Seamans? I think that is what worried him, that I was just trying
23 to establish a hierarchy. It wasn't that way at all. I didn't want him to think he had to talk to me

1 about it before going to Seamans.

2 INTERVIEWER: What position did Whittaker hold?

3 DR. McLUCAS: He was Assistant Secretary for Logistics and Installations.

4 INTERVIEWER: So you meant for the Under Secretary to go through Seamans.

5 DR. McLUCAS: No. Bob Seamans and I had agreed to my setting it up so that Whittaker
6 would keep me informed. I wasn't trying to achieve a hierarchy at all. I just felt that because I had
7 to stand in for Bob frequently — he was a great traveler — I should stay up to date. I think Bob
8 Seamans did the right thing. I would often be in the position of having to deal with issues that came
9 up in his absence. So if I kept up to date on these issues when he was here, I could handle them
10 better when he was gone. To do that I wanted to sit with the Assistant Secretaries an hour a week
11 and just stay current. That was the purpose of my asking Phil Whittaker to come in, and he was
12 suspicious. You know, I don't blame him, but I wasn't trying to phase him out or anything.

13 INTERVIEWER: You were just trying to get information?

14 DR. McLUCAS: Right. He and I ended up friends, I think, after he got comfortable with
15 it.

16 INTERVIEWER: Were you ever displeased with the organization of the OSAF? Were there
17 things that you would have liked to have changed or have tinkered with that you never got a chance
18 to?

19 DR. McLUCAS: Frankly, I don't have much of a memory in recalling that. I think I would
20 say I was very accepting of whatever was there. My tendency would be to say that you are never
21 going to have the ideal organization, so you had better work with whatever you have got unless it's
22 really screwed up. You work around it, and you work within it to make it function without spending
23 a lot of time organizing and reorganizing. In fact, one of the strong complaints that I had as a

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1 outside contractor working for the Air Force was learning how to keep up with the organization.

2 INTERVIEWER: Did it change?

3 DR. McLUCAS: By the time you learned how to work with an organization, let's say at
4 Wright Field, which became Wright Patterson Air Force Base, they reorganized. So all the people
5 I thought I knew, and what slots they were in, and who I should see on a contract matter, and who
6 I should see on a technical matter, and so forth would change. Everytime I would get it straightened
7 out, the managers would change it. And so I had a "bad taste in my mouth" about reorganizing. It
8 seemed that every new commander thought that the previous one had done it wrong, so he would
9 change it to his way. The next guy who came in would turn the organization another way. I was
10 suspicious of using organizational changes to try to accomplish something. I'm saying all this
11 because I don't remember being impressed when I became the Secretary that we should change the
12 organization.

13 INTERVIEWER: You wanted to keep it the way it was?

14 DR. McLUCAS: Unless it was screwed up.

15 INTERVIEWER: I was just thinking did you ever have an idea that you wanted to add
16 another Assistant Secretary? Could you have used a new deputy or a new assistant?

17 DR. McLUCAS: Well, I'm not sure whether this is an addition or not. I had several
18 assistants when I was Under Secretary. I had, of course, the NRO satellite reconnaissance program,
19 and I had an assistant for that. And I had an assistant for international programs, and then I had an
20 assistant for electronics-related programs. So I had a total of three of these guys. I'm trying to think — I
21 guess two of those existed before I came in because I only added one to the group because the guy
22 was so special. He was just an electronic genius, and I felt that it was a way to recognize his
23 abilities and give him a little more status and a little more influence. But, basically, I saw no need

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1 to spend much time reorganizing.

2 INTERVIEWER: I want to turn back to the gunship business which you mentioned with
3 regard to Vietnam. You mentioned that you had backed up Dr. Seamans on this matter. Can you
4 elaborate on that?

5 DR. McLUCAS: Well, I think we both were very enamored with the idea of a gunship. You
6 were dealing with sort of a different type of warfare in Vietnam. Most of the history of U.S. war
7 preparation in the last century has been Europe-orientated. Our most likely involvement was going
8 to be against the Russians, and that, most likely in a European scenario.

9 (END TAPE 3, SIDE 1)

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(BEGIN TAPE 3, SIDE 2)

INTERVIEWER: We were talking about Vietnam.

DR. McLUCAS: We were mainly preparing for a war in Europe when we got involved in Vietnam. The scenarios are so different. Many of the weapons that you have are not very well-suited to the new arena. You have got a lot of small targets. You are in a situation where trucks filtering the supplies into Vietnam are very important targets. And there were other targets of comparable scale. So you need to attack them individually, or else you are not going to hit many at all. Carpet-bombing and those things just didn't have much effect. So the gunship seemed like it was tailor-made for that environment. You had a relatively cheap airplane; therefore, you could buy quite a few of them if you wanted to. They could capitalize on some night-vision equipment, infrared systems. The gunship combined all those seeing devices, and along with the high rate of fire guns, it really seemed like a good idea. We spent quite a bit of time trying to accelerate the arrival of those aircraft in the theater. We got classified reports back, and that spoke to the fact that they seemed to be doing their job.

INTERVIEWER: You listed in your letter that you sent me a whole list of individuals that you dealt with when you were Secretary and Under Secretary of the Air Force. Could you mention more about these people?

DR. McLUCAS: What kind of people?

INTERVIEWER: Well, I have a list of them here — the people you mentioned you dealt with. Oh, yes, you mentioned John Warner and Stan Rezor.

DR. McLUCAS: Rezor, Secretary of the Army.

INTERVIEWER: Johnny Foster, Mel Curry, Dick Helms, all these guys here, and you

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1 mentioned Schlesinger before. How about Eddie Hebert, and George Mahon, and Senator Proxmire?

2 DR. McLUCAS: Right.

3 INTERVIEWER: How about with some of the contractors that you held, like Northrop, and
4 McDonnell?

5 DR. McLUCAS: Right. Well, what do you want me to say? What questions are you asking?

6 INTERVIEWER: Your relationship with them, could you elaborate more on the relationship
7 that you as the Secretary and Under Secretary had with these people? Do you have any stories that
8 you would like to relate?

9 DR. McLUCAS: Well, I enjoyed my interaction with the contractors. I had the impression,
10 depending on the stage of the game and which service we are talking about, that in many cases the
11 service secretaries had not been accessible to the contractors. You know, some people can make
12 quite a case that if you seem to be getting too close to the contractors, you are in effect in bed with
13 them, and you are not serving the interests of the government. You are being warped to their needs
14 rather than serving the government's needs. I always felt I could cope with that, and therefore I
15 believed I had more to gain by talking with the contractors and dealing with them directly than I
16 did by going through intermediaries and sort of freezing them out. I thought you had more to gain
17 by letting the contractors know what you wanted and holding them to the terms of the contract and
18 so forth than you did by trying to distance yourself and by being high and mighty and standing
19 above the fray, so to speak. So, it was my sort of basic philosophy that you should meet these guys,
20 find out what they see as their biggest challenges, and determine whether you could do anything
21 about them. Also, we could let the contractors understand what we want and whether we are happy
22 or unhappy. A lot of times we are unhappy. Let's make sure they know that firsthand and try and
23 get them to shape up. That was my general attitude.

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1 INTERVIEWER: So, you dealt with the man directly?

2 DR. McLUCAS: Yes.

3 INTERVIEWER: Can you recall any instances where you felt mistreated by these
4 contractors or where they tried to use you more than you wanted to be used?

5 DR. McLUCAS: Well, there is no example that comes to my mind, right now.

6 INTERVIEWER: You kept a balance?

7 DR. McLUCAS: I tried to. I remember reaming out one guy. He came in to my office with
8 a big glad-hander approach. I guess he had heard I was a friendly person. He was running way late
9 on this particular item. So he came into my office, and we went through the usual pleasantries of
10 "I saw old Joe last week" or whatever. We got to the subject of his contract, and I said, "There is
11 one thing I want you to tell me. If you were grading yourself on how good a job you are doing for
12 us, what grade would you give yourself?" He was sort of taken aback. He finally said, "I guess I
13 got a C minus." I responded, "Well, that tells it all right there. When are you going to shape up?"
14 He did and I didn't have to lecture him. I had to point out that I knew what the status of his work
15 was, and that it wasn't satisfactory, and he had better get on with it. Well, his work finally turned
16 out alright. At the time he had come to see me, he was way behind schedule and running out of
17 money. We gave him a little more money. Looking back on the contract later, we paid 50 percent
18 too much for the product, but it lasted twice as long as it was contracted for. So, we got our
19 money's worth.

20 INTERVIEWER: So you stretched it out. The example that comes to mind is Arthur
21 Barrows, the first Under Secretary of the Air Force, who got into a discussion with some contractors
22 who asked him "Why don't you like us?" and "Why do you keep saying bad things about us?"
23 Barrows response was, "We didn't say anything bad about you. We just think you are a bunch of

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1 cheap, chiseling thieves." [Laughter] I just wondered if there were any similar incidents that
2 happened to you. That's what I was looking for. That sort of thing.

3 DR. McLUCAS: That's a good story.

4 INTERVIEWER: It's in my book on the Secretary of the Air Force. You are talking about
5 Jack Ryan here. I'm pulling these questions from the write-up you sent me. By the way, I will have
6 this interview transcribed, I'll work on it and put the proper names in, and then I'll send it to you
7 for your editorial comments. Do you think that Jack Ryan thought there was too much interference
8 between the civilian side of Secretariat into Air Force matters? Do you recall anything about that?

9 DR. McLUCAS: Well, I just remember his commenting to me about how the Air Force
10 Secretaries were much more involved than their counterparts were in the other services. I thought
11 when he started on this subject that it was a kind of compliment, that he meant we understood the
12 programs and dealt with them. About the time I started feeling good about his comments, he said,
13 "Of course, I'm not saying that that's necessarily to the good." He said, "You're more involved, but
14 that's not necessarily a good thing." I interpreted this broadly. In other words, he wasn't attacking
15 me, he was attacking the general concept that if Secretaries were involved, things would be better.
16 Some people believe Secretaries have something to offer, so you might as well take advantage of
17 it. But he had seen a lot of guys who would interfere and throw their weight around, but they really
18 didn't know what they were talking about. That's the way I interpreted it. I know he wasn't taking
19 a poke at me, but was speaking in general terms. Who knows now what he had in mind, but that's
20 the way I interpreted it.

21 INTERVIEWER: Do you believe that the civilian side of the Secretariat can help the Air
22 Force on the Hill, in Congress?

23 DR. McLUCAS: Oh, yes, I do. I think this is one of the biggest areas for adding credibility.

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1 Civilians are what makes it a civilian-controlled establishment, and, as such, they can be a bit more
2 objective about certain things. When they go to the Congress, they are not necessarily trying to get
3 more promotions for the admirals and so forth, therefore, they may have greater credibility. Of
4 course, that's a broad statement. I think there are many military officers that would tell you that's
5 the way the Service Secretaries should spend their time--ballyhooing for the services and being a
6 front man and glad-hander and so forth rather than trying to get into the substance of a program.
7 I think there's a role for both. Secretaries have a role to critique and modify the programs and a
8 role to defend those programs on the Hill and elsewhere. In other words, the Secretaries can be
9 public relations people for the services. I thought one of my principal roles was to accept dates to
10 give speeches and to talk about the military and why they need support and so forth. I like to think
11 I was never being conned into making a blind defense for the services without knowing what I was
12 talking about.

13 INTERVIEWER: Well, I would think that your prior service as the Under Secretary and
14 DDR&E would make it less likely that you could be conned. You probably had a history longer
15 than some of those generals did of dealing with matters on the Secretariat level. You said you had
16 a pretty good relationship with George Brown. How often did you meet in either of your offices?
17 Was it often?

18 DR. McLUCAS: I would say quite often, maybe three times a week. It would either be
19 in a joint meeting or a joint briefing or session or we would have lunch together or go up on the
20 Hill. We appeared together in different circumstances, and we worked together under various
21 arrangements. We got certain briefings, and, of course, some briefings he wanted to have himself
22 and he didn't want me around. I don't know how many of those there were, but I know that in most
23 of the sessions he had with the other generals, I was not included.

1 INTERVIEWER: That's the air staff meetings?

2 DR. McLUCAS: Yes. And we never tried to horn in on any of those meetings. But we had,
3 I thought, an excellent relationship, mutual respect, candor.

4 INTERVIEWER: Did you have any joint OSAF/Air Staff meetings with your Assistant
5 Secretaries and some of the Air Force generals?

6 DR. McLUCAS: I don't think we did. Not specifically as such.

7 INTERVIEWER: That might be a recent innovation with Sheila Widnell, the present
8 Secretary of the Air Force.

9 DR. McLUCAS: They have combined a lot of things that were separate when we were
10 there. I don't know if it is good or bad. I assume it was done mainly for manpower savings and
11 probably it's been effective. I don't know.

12 INTERVIEWER: There is probably much sharing of information. Did your good
13 relationship continue with George Brown when he became Chairman of the Joint Chiefs of Staff?

14 DR. McLUCAS: Yes, but I guess I wasn't around long after he became Chairman. Let me
15 see. He was Chief a year, I guess. Is that right?

16 INTERVIEWER: I think so. I have got that right here. Brown, Chief of Staff — yes, August
17 1973 to June of 1974. Just about — less than a year, and then Jones came in.

18 DR. McLUCAS: Okay, so I did have a year with him as Chairman. Well, I can say in
19 general that we were still on good terms, but I don't remember any specifics. I had a very high
20 opinion of him and I think he did of me.

21 INTERVIEWER: How about the relationship between the DOD and the Air Force during
22 your tenure? Did any of the Assistant Secretaries of Defense attempt to assert their authority over
23 the OSAF Assistant Secretaries? That's more along the lines of a communications issue.

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1 DR. McLUCAS: All I can say is that there is quite a bit of it occurred. The OSAF
2 Assistant Secretaries dealt directly with the Assistant Secretaries of Defense like DDR&E, for
3 example. He's not an Assistant Secretary of Defense, but he's sort of a super assistant. The OSAF
4 Assistant Secretaries directly with the DOD Assistant Secretaries about many issues without going
5 through me, and I never had any problem with that it. I guess I wasn't too sensitive to that type of
6 organization. I wasn't up tight about it.

7 INTERVIEWER: I asked that question because of Gene Zuckert who served as Assistant
8 Secretary of the Air Force under Stuart Symington and Thomas K. Finletter before becoming
9 Secretary of the Air Force in 1961. He told me that he had more power as Assistant Secretary under
10 Symington than he did as Secretary of the Air Force under McNamara. All those various pieces of
11 legislation layered the authority of the Secretary of Defense over the Service Secretaries. I posed
12 that question to numerous people, and you wouldn't have any prior knowledge of what it had been
13 like. Zuckert was the only Air Force Secretary that had that knowledge and could assess how the
14 power of the service secretaries had been dismantled or layered. That's why I ask the question. But
15 if you have no knowledge of how your powers have been diminished, then you don't feel like you
16 have lost anything. So, in your experience would the Assistant Secretaries of Defense come into
17 your office to visit and conduct business or whatever?

18 DR. McLUCAS: Yes.

19 INTERVIEWER: And you had pretty good access to the Secretary of Defense when you
20 wanted it?

21 DR. McLUCAS: Yes, my access was very good, but I was not necessarily typical. I think
22 with Mel Laird I was. Of course, I wasn't Secretary when he was there, but, as Under Secretary
23 sitting in for Bob Seamans, I had what I thought was excellent access to Mel Laird. I met with him

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1 once or twice a week on other things, and then I was in his office for our own scheduled meetings.
2 I met with Mel Laird every Friday for breakfast, and so that was not Air Force, but, you might say,
3 the same thing. I was there so I could talk to him about this and that, and he maintained a pretty
4 open door as far as I was concerned. I think he did so with the other Service Secretaries, as well.
5 His successor was Jim Schlesinger, who was quite different. I had good access to Jim Schlesinger,
6 but I got the impression that the other secretaries did not because he was much more standoffish
7 with them. He was an arrogant type of a person and tended to-- what's a good way to put it? He
8 did not suffer fools gladly. Unless you had something important to talk to him about, he didn't want
9 to see you. He didn't want to sit and talk for the hell of it.

10 INTERVIEWER: Not a people person.

11 DR. McLUCAS: Right.

12 INTERVIEWER: So to what do you attribute your good rapport with him that the other
13 Service Secretaries didn't have?

14 DR. McLUCAS: I don't want to overplay that, but that's the impression I had. It was mainly
15 that he and I had worked together before, when I was running NRO. He was -- I don't know what
16 his title was--but he was a director at OMB [Office of Management and Budget]. He had big hunks
17 of programs underneath the head of OMB. He was sort of like the number two man. So he and I
18 dealt with the NRO budget, for example, and we had experience working together on that. In fact,
19 that's the reason he wanted to pick me as Secretary. I was leaving the Pentagon when he came over,
20 and he called me up and said, "Look, don't leave. I want you to stay on as Secretary." And I said
21 I had taken a job somewhere else, and he said, "Cancel it." Anyway, the reason that he was saying
22 this to me was that he knew me. He didn't know these other people. So, I had a closer working
23 relationship with him. In fact, I remember saying to him one day he ought to continue Mel Laird's

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1 practice of holding meetings with all the Service Secretaries. And his response was, "Why should
2 I?"

3 INTERVIEWER: So I guess they were discontinued?

4 DR. McLUCAS: Yes, they were discontinued.

5 INTERVIEWER: I'm going to bring up the issue of laser-guided bombing—specifically our
6 capability. You served through the period as Under Secretary and as Secretary. What was your
7 opinion of the contribution of laser-guided bombs to Linebacker I and how much interest did
8 Secretary of Defense Laird or President Nixon have in laser-guided bombing?

9 DR. McLUCAS: A lot of instances don't come to mind, but my impression is, they had a
10 lot of interest. Not specifically in lasers, but in precision weapons. It was the idea that you could
11 attack targets and expect to hit them. I thought that laser-guided bombs were a great application and
12 that they could be part of a big improvement in our ability to deal with combat situations. A lot of
13 people, including me, thought that during the first half of the Vietnam War we essentially wasted
14 most of the weapons that we dropped. We were generally dealing with relatively small targets, and
15 using an area bomb against a small target is not a very efficient process. I remember that — what
16 was the name of that bridge that . . .

17 INTERVIEWER: The Thanh Hoa bridge? It's in North Vietnam.

18 DR. McLUCAS: Yes. The bridge we attacked time after time, and they kept repairing it,
19 and we are using, say, an F-105 and a dumb bomb, and we get within 200 feet of it, and it's just
20 as though we didn't drop anything. You had to drop on the pylon or it didn't do any good.

21 In the meantime you are exposing quite a few airplanes to antiaircraft fire to drop a bomb
22 that isn't going to hit. It was a woefully inadequate response. With the laser-guided weapon, on the
23 other hand, you could actually hit the bridge and avoid exposing all those airplanes to enemy fire.

1 INTERVIEWER: Then, you thought it was worthwhile to pursue further research?

2 DR. McLUCAS: Yes. I guess we finally got it right in the Gulf War. But there you had a
3 lot of things in your favor. A lot of the targets in Iraq sort of stood out, but in Vietnam many of
4 the targets were hidden or partially hidden. You also usually had bad weather against you. You
5 were usually trying to get into an area not totally visible and fleeting in nature. The Gulf War we
6 had many highly visible fixed targets. Our precision weapons changed the whole name of the game.
7 I guess the danger is that we will claim we have learned too much from the Gulf War because the
8 next war will probably be different still.

9 INTERVIEWER: Yes. Speaking here about the issue of close air support weaponry and
10 mission as it pertains to both the Army and the Air Force; what can you recall about this question
11 of close air support with the Army? Do they want it? Do we want to keep it? Do you recall
12 anything that happened in your tenure about that?

13 DR. McLUCAS: Well, there had been quite a bit of discussion about Forward Air
14 Controllers. There is a continuing Air Force attempt to be supportive and a continuing Army
15 frustration about not getting as much close air support as is wanted. This is a volatile situation. The
16 Air Force is getting credit for making certain improvements, and not getting credit because they
17 didn't make enough improvements. I have trouble with specifics. I just have general impressions
18 at this stage about how well that went.

19 INTERVIEWER: The A-10 was started before your tenure as Secretary. Was the Army
20 satisfied with it when the Air Force got the aircraft? Was the Air Force happy with it?

21 DR. McLUCAS: In general, yes; the Air Force was pleased with it. It had a lot of fire
22 power.

23 INTERVIEWER: It was good for the European environment; but it was not well suited for

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1 an open field although it did well in the Gulf War.

2 DR. McLUCAS: Yes. That's correct.

3 INTERVIEWER: Are there any other weapons systems here that you would like to expand
4 upon such as the AWACS, B-1?

5 DR. McLUCAS: The AWACS, yes.

6 INTERVIEWER: Did you have much to do with the AWACS?

7 DR. McLUCAS: Well, it was in development.

8 INTERVIEWER: I was thinking that your being an electronics expert, you would have a
9 particular interest in that.

10 DR. McLUCAS: As a matter of fact, the AWACS was, I thought a tour de force. We took
11 a very difficult problem and sort of bulled our way through it and finally got a working system. The
12 technology was always marginal. We had been working on AWACS for 15-20 years, and the whole
13 idea was if you could do the Doppler radar well enough, than you could get moving targets against
14 a fixed background. Yet if the platform on which you were obtaining the data is moving also,
15 then everything is a moving target—everything around you is moving with respect to you, and you
16 have got to sort out the difference in motion, which is usually slight. We had to determine the
17 difference between the ground, which is moving at 300 knots, and the road vehicle which is moving
18 at 310 knots. Of course, we never could cut it quite that close, but we could get it down to maybe
19 20-30 knots. Airplanes are relatively easy to see because the difference in the speed of the airplane
20 versus the ground was easier to determine. The difference of the truck on the ground, as seen from
21 the AWACS, is a difficult problem. And so you need a pretty good size truck to generate enough
22 of an echo to permit you to distinguish a moving truck from the ground.

23 At any rate, it was always sort of a marginal thing, and it was so marginal it wasn't worth

1 doing for 10 years or whatever. We finally got better at it, and our efforts finally culminated in the
2 AWACS, and we spent billions on it. The airplane was terribly expensive, but we finally got it up
3 and flying. I thought it was a very valuable product, and since you are dealing with an almost
4 intractable problem, I guess it's not surprising we spent so much on it before we ever got it
5 running. It was an impressive airplane.

6 I remember taking the Shah through one day, and he was trying to buy everything in town--
7 you know, F-15s. We were showing off our F-15s, the Navy was showing off F-14s, and we were
8 showing off AWACS and an F-15 under less than ideal conditions, which I thought was stupid of
9 us. We had an F-15 at Andrews Air Force Base, and he came out to look at it. Since he's a pilot,
10 he wanted to see the thing fly, and so did we. The F-15 was just sitting out there near the runway
11 on the ramp, and it was turned in such a way that there was a tail wind and they couldn't get the
12 engine started. So, they finally turned the airplane around, and it started right up, and he got his
13 demo flight.

14 We then took the AWACS up with the Shah on board, and showed him some targets. I
15 remember I had my hand around his shoulder, showing him different things, and someone said
16 you're not supposed to touch the Shah.

17 INTERVIEWER: Did he mind?

18 DR. McLUCAS: No, he was concentrating on what we were doing.

19 INTERVIEWER: Did he say I'll buy two? [laughter]

20 DR. McLUCAS: Yeah, right.

21 INTERVIEWER: Was this like 1974, or 1975?

22 DR. McLUCAS: I guess, 1974. I'm not sure.

23 INTERVIEWER: How about the B-1? Do you recall anything about that? It was in its early

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1 stages of development when you were there.

2 DR. McLUCAS: I remember the B-1's development phase seemed to go on forever. I think
3 it began in 1970, and all the details of the contract and so forth took a long time to work out. When
4 we finally started work on it, we kept coming up against various problems. I remember one day,
5 which would have been about '74, I called up Russ Dougherty [Gen Russell E. Dougherty SAC
6 Commander, August 1974-July 1977], who was heading the Strategic Air Command, and I said,
7 "We're having trouble." The B-1 has an expendable capsule — an ejectable capsule—and it is
8 overrunning like mad in development costs. Rockwell wanted another \$300 million or so to
9 complete it, and I don't think it's worth it. In fact, it got to the point where if we add anymore
10 money to this expensive development, we are in danger of losing the program. We are just about
11 at the stage where we can either keep the B-1, or we can get the capsule. And he said, "Mr.
12 Secretary, let's keep the B-1 going. Forget the capsule." Anyway, that was just one of the many
13 crises that arose. And then, of course, when Jimmy Carter came in, he stopped it altogether. But
14 that was a political move, I feel.

15 INTERVIEWER: That's when we had the hollow force.

16 DR. McLUCAS: He set his campaign on running against the B-1. Of course, when Reagan
17 came back in, he restarted it.

18 INTERVIEWER: Are there any other weapon systems you would like to mention that you
19 worked with? You mentioned the A-10. We've got that. The F-15, F-16, AWACS, and the B-1.
20 How about the YC-14 and YC-15? I think we mentioned them earlier.

21 DR. McLUCAS: I think we did. I was very happy with that program. I always thought that
22 we tended to be short on airlift, and any time, we could do something to beef it up, it would be
23 good.

1 INTERVIEWER: Now, you left in '75; was that because of the new Administration?

2 DR. McLUCAS: No. It was just Jerry Ford's decision. This reminds me of an incident that
3 came up. Jim Schlesinger left the Pentagon roughly the same day I did. My actions seemed to be
4 moving a little ahead of his, by maybe a week or two. I was traveling when I got a call on the
5 airplane. I was on a C-140, and the steward came back and said, "You've got a phone call." I
6 picked up the phone and it was Gerald Ford calling from Air Force One. He said, "I want to talk
7 to you about going to the FAA." I told him, Well, I'm just about to land here, (I forgot where I
8 was — up in Kansas, somewhere in the middle of the country). I said, "Could I call you as soon
9 as we land, in five minutes?" He replied, "Fine." We landed, and I asked the guys to get him on
10 the phone again. I stood there and talked to him for 10 or 15 minutes about why he was asking me
11 to do this. I ended the conversation saying, "Let me think about this." His rationale was that he
12 could get lots of people who would like to be Secretary of the Air Force, but he hadn't found
13 anyone he wanted to be head of the FAA.

14 INTERVIEWER: Head of FAA?

15 DR. McLUCAS: Yes to head the FAA and who was qualified. He had lots of people who
16 wanted the job, but none that he felt was qualified. So he finally turned to one of the assistants, in
17 this case it was Don Rumsfeld, and said, Tell me who is already in the Government service who
18 would be qualified? It was then that they came up with my name. The thought was, now here's a
19 guy — you know, if you bring a guy in from the outside you've got to go up to confirmation and
20 all this stuff—take a guy who is already inside, all you have got to do is move him from A to B.
21 That's what he was saying to me. It took awhile for that to dawn on me, that I didn't really have
22 any options. So I called him back in a day or so and said, "I understand what you want me to do,
23 but this is going to be a big loss of face for me. And he said, Oh, no it's the same rank job, and

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1 it's just the place where I need you much more. I replied, "Well, it is certainly going to appear as
2 a demotion to everybody in town who knows the Air Force." He asked, "What can I do to erase
3 that impression?" I told him, "One thing you could do is swear me in at the White House and
4 explain to everyone that this is not a case of being kicked upstairs or something like that, but that
5 you need me at the FAA." He said, "I'll do it," and that's what happened.

6 INTERVIEWER: Did he have someone else in mind for Secretary of the Air Force?

7 DR. McLUCAS: Not really, but he knew a lot of people wanted the job.

8 INTERVIEWER: How long did you stay at the FAA?

9 DR. McLUCAS: Well, that was in November, and I left in April 1977—about a year and
10 a half. One of the arguments I was making to President Ford was, look, the presidential term is
11 almost over, why not let me serve out my tour, and so forth. And, he was saying, "No, the term
12 is not almost over. Besides I'm going to run and get reelected, so I am asking you to take the job
13 for five years." It turned out that he was slightly wrong on his prediction about the election.

14 INTERVIEWER: When you left the FAA where did you go?

15 DR. McLUCAS: To COMSAT.

16 INTERVIEWER: To COMSAT, and then you stayed there for how many years?

17 DR. McLUCAS: Eight years.

18 INTERVIEWER: And then you retired?

19 DR. McLUCAS: Yes.

20 INTERVIEWER: Is there anything else that you think I missed here that you want to talk
21 about?

22 DR. McLUCAS: I don't know. I'll drop you a note if I do.

23 INTERVIEWER: I think those are all the questions I have. I really appreciate your time,

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1 sir, and I will get this back to you. Thank you, very much.

2 (END)

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1 REQUIEM FOR A BUREAUCRAT BY JOHN L. MCLUCAS — This article appeared in the April
2 25, 1977, edition of Aviation Week.

3

4 Recently, a new President took the oath of office and in an instant 2,000 high-level officials were
5 over age in grade. As someone said, pointing to my commission signed by President Ford, "That's
6 a document of historical interest only."

7 The new Cabinet received its mandate from the new President: to invoke a new spirit — in
8 effect, to wipe out the mistakes of the previous Administration. And the Cabinet and the new group
9 of appointees who will be brought into the White House and the departments and agencies will
10 engage with messianic zeal in righting the wrongs which they inherited from the previous group.

11 As a member of the old group, I know what it's like to come in with a new group and to
12 give one's best to try to correct the mistakes of the previous Administration. In fact, I have joined
13 the new group twice, having served two years in a mid-level position during the Kennedy
14 Administration and two years on the international staff of NATO in Paris. In 1969, I came down
15 to join the new team which was going to get us out of Vietnam.

16 Living in the Boston area, as I was at the time, I had grown impatient with the Johnson
17 Administration which I felt was hopelessly bogged down in Southeast Asia, incapable of winning
18 the war, yet so bound by the past that there was no way out. I was approached by the Laird-Packard
19 team in the Pentagon in January, 1969, and asked to serve with a group which was committed to
20 getting us out of Vietnam in some reasonable manner. I soon decided to cast my lot with them, over
21 the advice and objections of family and friends. I took a job as Under Secretary of the Air Force
22 and later as Secretary. Uprooting the family from the pleasant town of Concord, Mass., I came to
23 Washington to take a job at half the pay and twice the working hours, helping manage resources

1 of billions of dollars and to shape a defense policy for the future.

2 Slowly the team managed to get on top of most of the problems we had inherited: inflation-
3 ridden programs like the F-111 and the C-5A, and increasing frustrations in the military because
4 of the we-won't-let-you-win-but-we-won't-let-you-out approach to the war. It was an uphill fight
5 because of the countrywide atmosphere of suspicion and cynicism. A policy of reducing American
6 involvement was constructed under the term "Vietnamization" of the war.

7 But, it became "our war" — not that we wanted it. The policy of reducing American
8 involvement moved too slowly for the public's taste. We wrestled with the problems of maintaining
9 an effective military force when the military was unpopular at home and beset by growing Soviet
10 power and influence abroad, during a time of decreasing military budgets, rapidly shrinking
11 manpower and phasing out of a major fraction of our ships and aircraft. Procurements shrank to as
12 little as 10% of the numbers of airplanes bought during the big buildup — one year the Air Force
13 bought only 73 airplanes.

14 A deliberate decision was taken to modernize the weapons, airplanes, support systems, etc.
15 and heavy investments in R&D (research and development) were made to develop a new Air Force
16 array of aircraft — the F-15, AWACS (E-3A), A-10, B-1, F-5E, F-16. Even though fewer systems
17 would be bought, they would be the best. Similar decisions were made in the Navy for new carriers,
18 cruisers and submarines. A new generation of spacecraft was developed for communications,
19 weather observation, missile warning and intelligence.

20 In spite of the trauma of Vietnam and forced one-third cut of military manpower, Watergate
21 and its unhappy aftermath, I believe the morale and effectiveness of the military was preserved and
22 restored.

23 Now those of us who came to Washington eight years ago have some new decisions to

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1 make, new lives to create, new jobs to be sought and an evaluation to be rendered: was it worth it?
2 Did we contribute to solving the monstrous problems of the period, or were we a part of the
3 problem? Would the country be better off if we had remained where we were? Would we be better
4 off? It is hard to be objective. The country has lost its innocence. So have we. The country has been
5 shaken to its foundations. But it has endured. The Bicentennial was a happy respite from the great
6 time of troubles. Now we must go on. Many of us came to Washington with the optimism that
7 permeates a new Administration. Many of us had been disillusioned by the promises of Camelot
8 and Great Society. Now we are even further disillusioned. Neither Democrats nor Republicans have
9 had a monopoly on mistakes when we recall the Bay of Pigs, Vietnam, Cambodia, Watergate,
10 congressional sex scandals and all the rest.

11 And now the new group is in town ready to clean up the mess they inherited. And those
12 of us who came eight years ago are on the way out. We had our chance. We won some and lost
13 some. We have some successes for which we will get credit, some which are called mistakes, but
14 will later be known as successes, plus some real mistakes which will never be corrected...

15 Was it worth it? I may never know, but if I hadn't tried, I'd probably regret not having done
16 so for the rest of my life.